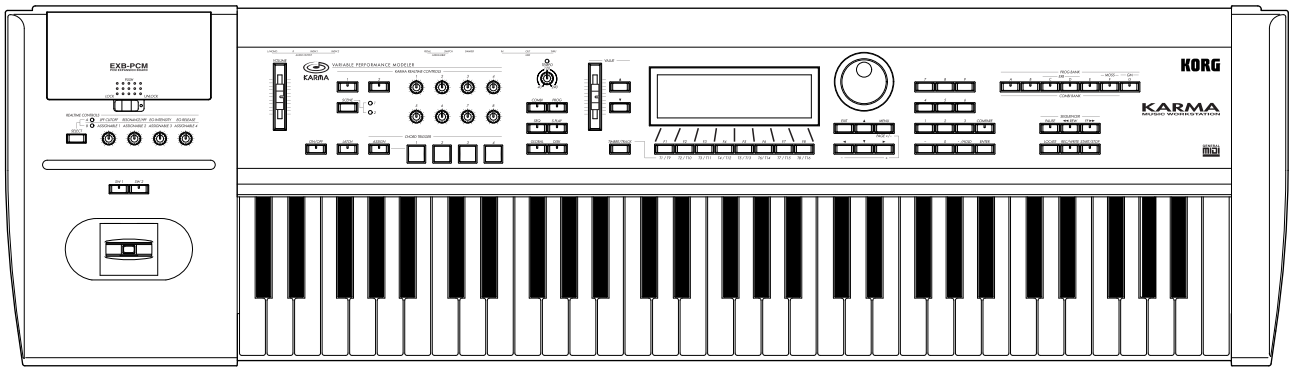
KARMA
MUSIC WORKSTATION

Basic Guide
Please read this guide first



KAY
ALGORITHMIC
REALTIME
MUSIC
ARCHITECTURE

HYPER INTEGRATED
SYNTHESIS SYSTEM

GENERAL MIDI

KORG

Ⓔ ③

To ensure long, trouble-free operation, please read this manual carefully.

Precautions

Location

Using the unit in the following locations can result in a malfunction.

- In direct sunlight
- Locations of extreme temperature or humidity
- Excessively dusty or dirty locations
- Locations of excessive vibration

Power supply

Please connect the designated AC/AC power supply to an AC outlet of the correct voltage. Do not connect it to an AC outlet of voltage other than that for which your unit is intended.

Interference with other electrical devices

This product contains a microcomputer. Radios and televisions placed nearby may experience reception interference. Operate this unit at a suitable distance from radios and televisions.

Handling

To avoid breakage, do not apply excessive force to the switches or controls.

Care

If the exterior becomes dirty, wipe it with a clean, dry cloth. Do not use liquid cleaners such as benzene or thinner, or cleaning compounds or flammable polishes.

Keep this manual

After reading this manual, please keep it for later reference.

Keeping foreign matter out of your equipment

- Never set any container with liquid in it near this equipment. If liquid gets into the equipment, it could cause a breakdown, fire, or electrical shock.
- Be careful not to let metal objects get into the equipment. If something does slip into the equipment, unplug the AC/AC power supply from the wall outlet. Then contact your nearest Korg dealer or the store where the equipment was purchased.

THE FCC REGULATION WARNING (for U.S.A.)

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the user's authority to operate this equipment.

CE mark for European Harmonized Standards

CE mark which is attached to our company's products of AC mains operated apparatus until December 31, 1996 means it conforms to EMC Directive (89/336/EEC) and CE mark Directive (93/68/EEC). And, CE mark which is attached after January 1, 1997 means it conforms to EMC Directive (89/336/EEC), CE mark Directive (93/68/EEC) and Low Voltage Directive (73/23/EEC).

Also, CE mark which is attached to our company's products of Battery operated apparatus means it conforms to EMC Directive (89/336/EEC) and CE mark Directive (93/68/EEC).

Data handling

Malfunctions due to incorrect operation may cause the contents of memory to be lost, so we recommend that you save important data on a floppy disk. Please be aware that Korg will accept no responsibility for any damages which may result from loss of data.

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Thank you for purchasing the **Korg KARMA music workstation**.
To ensure trouble-free enjoyment, please read this manual carefully and use the instrument as directed.

About this manual

The owner's manuals and how to use them

This instrument come with the following owner's manuals.

- Basic Guide
- Parameter Guide
- KARMA GE Guide
- Voice Name List

Basic Guide

First read this manual carefully to gain a basic understanding of the instrument and to learn basic operation.

"Introduction" explains the function of each part, how to make connections, basic operation, and gives an overview of each mode.
"Quick Start" explains basic topics (selecting sounds, convenient functions for performance). If you wish to begin playing immediately, read this section first.
"Basic Functions" contains mode-by-mode explanations of what you need to know to edit sounds, record on the sequencer. This section also explains how to use the KARMA function, effects.
"**Appendices**" contains information on troubleshooting, specifications, and various other information.

Parameter Guide

The Parameter Guide contains explanations and other information regarding the operations of the parameters and settings on this instrument. The explanations are organized by mode, and page. Explanations and other information on the effects and their parameters are also provided for each effect.
Refer to this guide when an unfamiliar parameter appears in the display, or when you need to know more about a particular function.

GE Guide

This explains the concepts and parameters of the GE (Generated Effect) section that generates the phrases and patterns of the KARMA function.

Voice Name List

This lists the multisamples and drumsamples that are built into this instrument, and the factory preset combinations, programs, drum kits, and KARMA function. Refer to these lists when you wish to know more about the preloaded sounds.

Conventions in this manual

Abbreviations for the manuals BG, PG, GE, VNL

References to the manuals included with this instrument are abbreviated as follows in this document.

BG: Basic Guide
PG: Parameter Guide
GE: KARMA GE Guide
VNL: Voice Name List

Switches and knobs [ ]

References to the switches, dials, and knobs on the panel are enclosed in square brackets [ ].

Parameters in the LCD display screen " "

Parameters displayed in the LCD screen are enclosed in double quotation marks " ".

Boldface type

Parameter values are printed in boldface type.
Content that is of particular importance is also printed in boldface type.

Procedure steps ① ② ③ ...

Steps in a procedure are listed as ① ② ③ ...

☞p.■

These indicate pages or parameter numbers to which you can refer.

Symbols , note , MIDI

These symbols respectively indicate cautions, advice, and MIDI-related explanations.

Example screen displays

The values of the parameters shown in the example screens of this manual are only for explanatory purposes, and may not necessary match the values that appear in the LCD screen of your instrument.

MIDI-related explanations

CC# is an abbreviation for Control Change Number.
In explanations of MIDI messages, **numbers in square brackets [ ]** always indicate hexadecimal numbers.

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Introduction

Introducing

Main features

Overview

This instrument is a music workstation featuring a **HI (Hyper Integrated)** synthesis system tone generator and **the KARMA function**.

In addition to high-quality multi-samples, programs, combinations, the KARMA function, and an effect section, it also provides a **sequencer**, **song play**, and **RPPR**, (Realtime Pattern Play & Record).

While you perform, you can control realtime changes to the sound or the phrase/pattern generated by KARMA by using **a rich array of controllers** such as joystick, [SW1], [SW2], REALTIME CONTROLS [1]–[4] knobs, KARMA Realtime Controls knobs and switches, and connected pedals. (☞p.26).

In addition, options such as a **MOSS tone generator (EBX-MOSS)**, and additional **PCM expansion boards** can be installed to further expand the potential of this instrument (PG ☞p.263).

This music workstation instrument is a powerful tool for music production or live performance.

HI (Hyper Integrated) synthesis system

The **HI (Hyper Integrated) synthesis system** is a PCM tone generator system with full digital signal processing that guarantees pristine sound, and features enormous flexibility in musical extensibility, modulation, and effect routing.

Tone generator section:

- **32 Mbytes** of preset PCM ROM contains **425** multisamples and **413** drumsamples.
  Separately sold **EXB-PCM series PCM expansion boards (16 Mbytes PCM ROM)** can be optionally installed to add more PCM data.
- The sampling frequency is **48 kHz**, and the maximum polyphony is **62 voices**.

Filter/synthesis section:

- **24 dB/oct Low Pass Resonance type** or **12 dB/oct Low Pass & High Pass type** filters can be used. A wide variety of filter effects can be achieved, from active sounds with aggressive resonance to subtle tones using a high pass filter.
- A broad range of editing parameters gives you control over every aspect of the sound.

Effect section:

- **Five insertion effects (stereo-in/stereo-out), two master effects (mono-in/stereo-out), and a three-band master EQ (stereo-in/stereo-out)** can all be used simultaneously. You can select from **102 types** of effect algorithms, and edit them.
- Highly flexible effect routing is possible. Effects can also be routed freely to the individual outputs.

Alternate Modulation and Effect Dynamic Modulation:

- The synthesis section (filter etc.) provides **Alternate Modulation functionality**, and the effect section provides **Effect Dynamic Modulation functionality**. This allows you to freely apply modulation to parameters that affect the pitch, filter, amp, EG, LFO, and effects etc.
- LFO and delay time etc. can be synchronized to MIDI clock/tempo. You can synchronize sounds or effects to the tempo of the sequencer or the KARMA function.

KARMA function (Variable Performance Modeler)

The **KARMA function (Variable Performance Modeler)** generates MIDI data.
According to the note and chord data that you input, various parameters of sophisticated algorithms are used to generate MIDI messages such as notes and control data, creating musical phrases and patterns. You can control these parameters to freely modify the phrases or patterns in realtime.

For example, you can freely control harp glissandi with dynamic tempo changes, changes in volume and tone of a brass sound that are synchronized with the phrase, randomness in a drum phrase, increased or decreased fill-in, dramatic techno grooves, or changes in tone color. KARMA lets you generate and control phrases and patterns with a higher level of musicality and freedom than is possible for conventional arpeggiators or pattern playback functions.

The KARMA function is the heart of Korg's KARMA music workstation.

What is KARMA?

KARMA™ (Kay Algorithmic Realtime Music Architecture) is a patented algorithmic MIDI data generating technology that takes input notes and controller movements and generates complex musical phrases and effects. KARMA provides independent real-time control over various aspects of a musical phrase, such as rhythm, duration, accents, chord density, pitch bending, tonal variation, panning, repeats, randomization, etc.

Programs and combinations

- In progtam, KARMA Music Workstation provides **640 user programs, and 256 programs + 9 drumsets for GM2 compatibility**. When shipped from the factory, it contains high-quality preload programs that cover a wide range of musical needs. The 640 user programs can be modified by adjusting the numerous editing parameters, the effects and the KARMA function, to create your own original programs.
  When **the separately sold EXB-MOSS option is installed**, **128 programs** for the Korg MOSS tone generator will also be available.
- For use as the oscillator of a drum program, KARMA Music Workstation provides **64 user drum kits** and **nine GM2-compatible ROM drum kits**. With the factory settings, preset drum kits that cover a variety of musical genres are provided. You can create your own original drum kits by assigning a drumsample to each note of the keyboard. For each note, you can make filter and amp settings, and even route the sound through effects and to a individual audio output.
- KARMA Music Workstation provides **768 user combinations**. With the factory settings, these contain a wide variety of preload combinations. A combination allows you to use **layers**, **splits**, or **velocity switches** etc. to combine up to eight programs together with effects and four KARMA modules, in order to create complex sounds that could not be produced by a program. You can also make settings that include external tone generators.

Sequencer

KARMA Music Workstation provides a **high-performance 16-track MIDI sequencer**, with more than sufficient power for use as a stand-alone sequencer. The sequencer can serve as the core that brings together KARMA Music Workstation's numerous capabilities, allowing it to serve as an integrated music workstation.

For more on this instrument's sequencer (☞p.57).

Song Play

In Song Play mode, **SMF (Standard MIDI File) data can be played back directly** from a floppy disk. You can play along on the keyboard as you listen to the SMF playback. You can also perform with the KARMA function synchronized to the SMF playback tempo.

- **Formats 0 and 1** are supported.
- A jukebox function lets you edit the order in which songs are played back.

RPPR

KARMA Music Workstation features a **RPPR (Realtime Pattern Play/Recording) function**.
In Sequencer mode, this function allows you to assign preset patterns or user patterns (with a specified playback track) to individual notes of the keyboard, and playback or record that pattern in realtime simply by pressing the assigned note. Numerous preset patterns, including patterns ideal for a drum track, are built into the internal memory.

4 channel audio output

- In addition to the L/MONO and R main stereo audio outputs, KARMA Music Workstation provides **two individual audio outputs**, for a total of four channels of audio output. The sound from each oscillator, drum, timbre/track, or insertion effect can be routed freely to any output.

Overview of the modes

In addition to its KARMA function, this instrument includes an extremely wide array of functionality. You can play and edit programs and combinations, record and play sequence data, directly play SMF files from floppy disk, and manage disk data. These functions are broadly divided into "modes." KARMA Music Workstation has six modes.

Program mode

- Here you can select and play programs
  You can choose programs from rewritable banks A, B, C, D, E and F which contain a total of 768 programs, and non-rewritable bank G (256 programs compatible with the GM2 standard, and nine drum programs).
  (The 128 programs of bank F can be selected only if the EXB-MOSS option has been installed.)
- A program can use one KARMA module.
- You can edit a program
  Make settings for the oscillator, filter, amp, EG, LFO, effects, and KARMA function etc.

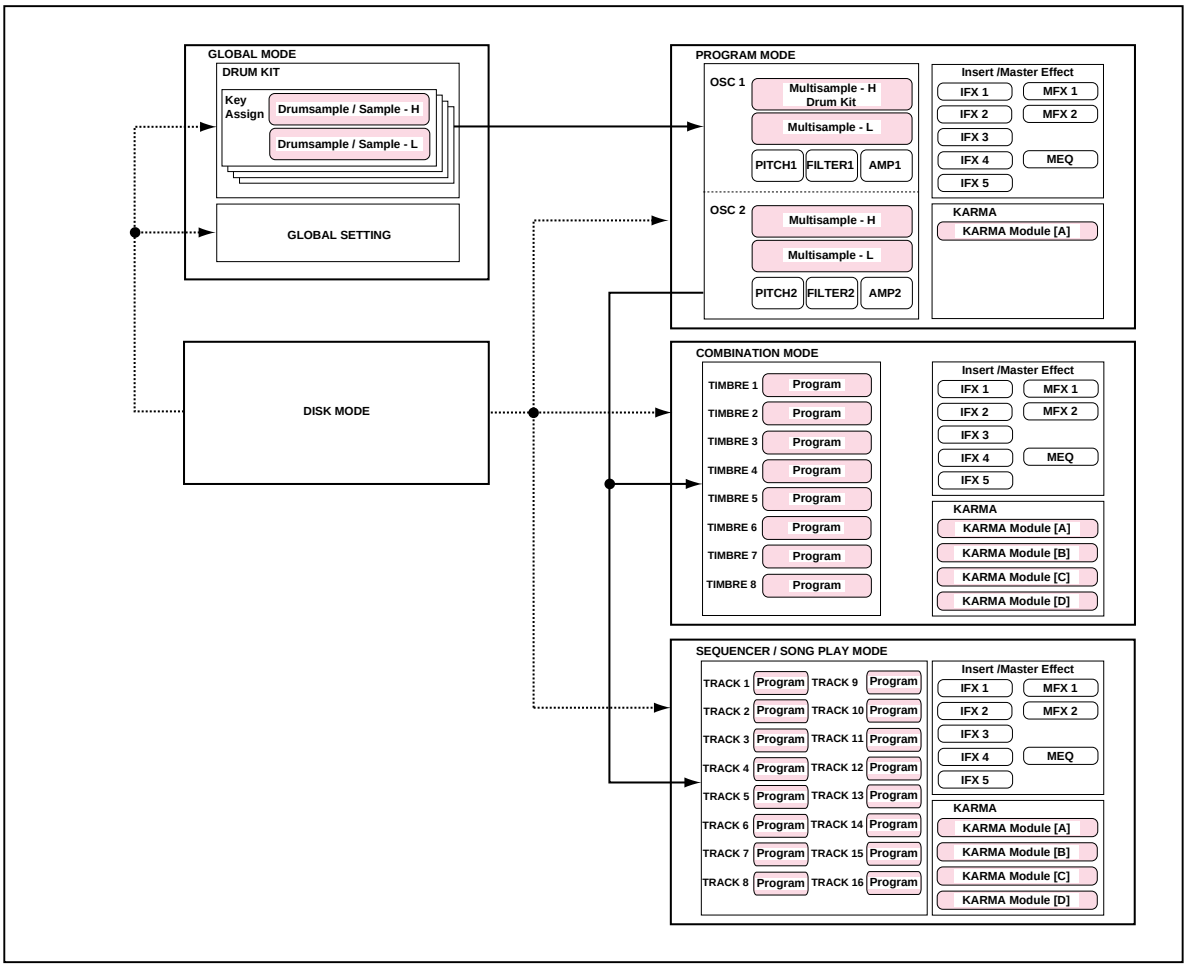
  Select a multisample (the following multisamples are available)
  - 425 internal multisamples (ROM)
  - Expanded multisamples (when a separately sold EXB-PCM series board is installed)
  - Create drum programs using a drum kit (created in Global mode)

Combination mode

- Here you can select and play combinations
  A combination is a set of two or more programs (a maximum of eight), and allows you to produce complex sounds that could not be created by an individual program.
  You can choose combinations from rewritable banks A, B, C, D, E and F which contain a total of 768 combinations.
- A combination can use up to four KARMA modules.
- You can edit combination data.
  Make settings for volume, pan, layer/split etc. for each timbre (program), and make settings for effects and the KARMA function etc.

Sequencer mode

- Here you can use the 16-track sequencer to record and playback songs.
- A song can use up to four KARMA modules.
- You can make effect settings for your song.



- Your performance using the KARMA function can be recorded to a song or pattern. You can also copy a combination and use the KARMA function to record your performance.
- You can use a cue list to set up consecutive playback of multiple songs, and specify the number of repeats for each song.
- You can use a maximum of 20 cue lists, 200 songs, and 100 preset patterns. One song can use as many as 100 patterns.
- KARMA Music Workstation can be used as a 16-track multitimbral tone generator.
- You can perform using the RPPR (Realtime Pattern Play/Recording) function, and make settings for it.

Song Play mode

- Here you can playback SMF (Standard MIDI File) data from a floppy disk and play along with the playback if desired.
- You can make effect settings for use in Song Play mode.
- You can use the KARMA function while playing along with the SMF playback. Up to four KARMA modules can be used.
- SMF songs can be played back in succession. You can use the jukebox function to playback songs in any specified order.

Global mode

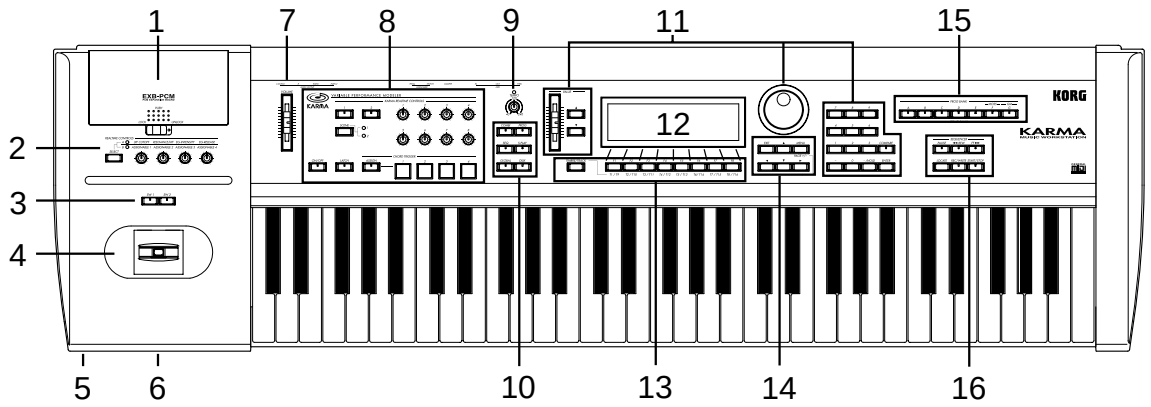
- Here you can make settings that affect the entire this instrument, such as master tune and global MIDI channel.
- You can create drum kits (64 kits) and user scales (16 one-octave scales and 1 all-note scale).
- You can create drum kits using the 413 internal drumsamples (ROM). You can also use drumsamples from an optional EXB-PCM series board (if installed).
- You can set the function of the assignable pedals and assignable switches.
- You can transmit data dumps of MIDI exclusive data.

Disk mode

- Data from each mode can be saved and loaded using a floppy disk.
- Media such as floppy disks can be formatted, and data can be managed by copying etc.
- Songs that you created in Sequencer mode can be saved in SMF format. SMF files can be loaded as Sequencer mode songs.
- You can use the Data Filer function (to save/load MIDI exclusive data).

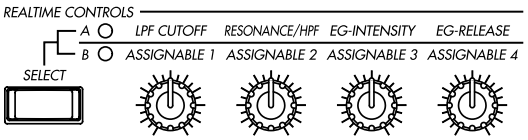
Front and rear panel

Front panel



1. EXB-PCM slot cover (EXB-PCM option)

Open this cover to install separately sold EXB-PCM series option boards.
Two slots are provided.
For details on installation, refer to PG p.265



2. REALTIME CONTROLS

Use the [SELECT] key to select A or B mode for the realtime controllers, and use knobs [1]–[4] to control the tone, effects, and MIDI control changes etc. in realtime (☞p.24).

[SELECT] key

This key selects either A or B mode for the realtime controllers. The selected mode will light.

[1] knob, [2] knob, [3] knob, [4] knob

In **A mode**, the function of each knob is fixed. **[1]** is the low pass filter cutoff frequency, **[2]** is the filter resonance level or the cutoff frequency of the high pass filter, **[3]** is the filter EG intensity, and **[4]** is the filter/amp release time.
In **B mode**, each knob will control the function that is assigned in Program, Combination, Sequencer, or Song Play modes.

3. [SW1] key, [SW2] key

These keys are on/off switches for the functions to which they were assigned in Program, Combination, Sequencer and Song Play modes. When on, the LED will light (☞p.23).

4. Joystick

This controls pitch or modulation, etc.
Move the joystick up/down or left/right (+Y, –Y, –X, +X) to control (☞p.23).
Various program parameters and effect parameters will determine what is controlled by the joystick.

5. Headphone jack

A set of headphones with(1/4") stereo phono plug can be connected here.
The output from the L/MONO and R OUTPUT jacks can be monitored in stereo through the headphones.

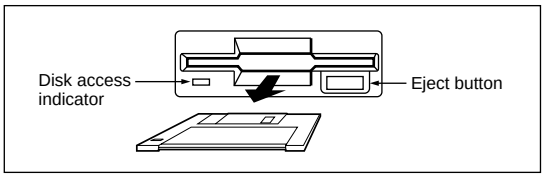
6. Floppy disk drive

You can insert 3.5 inch 2HD (double-side high density) floppy disks here. Edited data can be saved on a floppy disk, and the factory preload data, or SMF data etc. can be loaded from a floppy disk.
For details on handling floppy disks, refer to "Floppy disk handling" (☞p.95).

Eject button

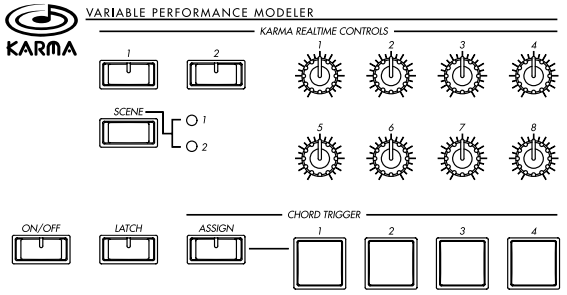
To remove a floppy disk, first make sure that the **disk access indicator** is off, and then press this button. If the disk does not eject when you press this button, do not attempt to remove the disk by

force. Please contact your dealer.



7. [VOLUME] slider

This adjusts the volume that is output from the OUTPUT jacks (L/MONO, R) and the headphone jack.



8. KARMA REALTIME CONTROLS

These allow you to control the KARMA function as you play. (☞p.27).

[ON/OFF] key

This turns the KARMA function on/off.
The LED will light when this function is on.

[LATCH] key

This causes the KARMA function to continue operating even after note-off. (i.e. keys or CHORD TRIGGER keys are released.)

CHORD TRIGGER [ASSIGN] key

Press this when you wish to register a chord from the keyboard or from the MIDI IN connector to the CHORD TRIGGER [1], [2], [3], or [4] keys. (☞p.27)

CHORD TRIGGER [1], [2], [3], [4] keys

When you press one of these keys, the registered chord will be input to the KARMA module, causing a phrase or pattern to play.

[SCENE] key

Two sets of settings for the KARMA Realtime Controls knobs [1]–[8] and switches [1], [2] can be memorized as "scenes."
Each time you press this switch, you will alternate between the two scenes. The LED of the selected scene will light.

[1] and [2] switches

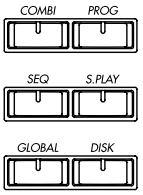
These switches control the assigned RT (Realtime) parameters or GE (Generated Effect) parameters of the KARMA module. (☞p.27–)

[1]–[8] knobs

These knobs control the assigned RT (Realtime) parameters or GE (Generated Effect) parameters of the KARMA module. (☞p.27–)

9. [TEMPO] knob

This adjusts the basic tempo for the playback produced by the KARMA function and for the sequencer.
The LED located above the knob will blink at quarter note timing for the specified tempo.



10.Mode keys

Use these keys to enter the desired mode.
When you press a key, the LED will light, and you will enter that mode. (☞p.14).

[COMBI] key

Combination mode will be selected.

[PROG] key

Program mode will be selected.

[SEQ] key

Sequencer mode will be selected.

[S.PLAY] key

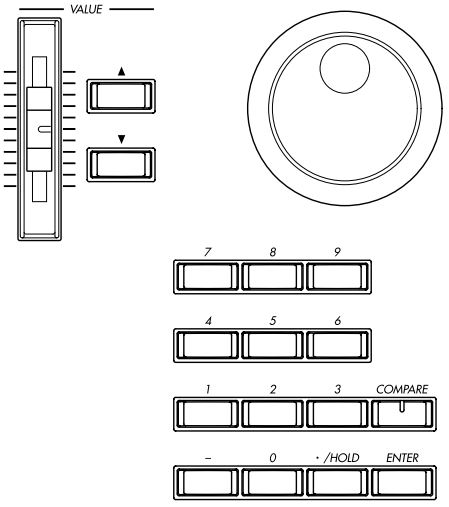
Song Play mode will be selected

[GLOBAL] key

Global mode will be selected

[DISK] key

Disk mode will be selected.



11. VALUE controllers

The following VALUE controllers are used to set the value of the selected parameter (☞p.15).

[VALUE] slider

Use this to modify the value of a parameter. This controller is convenient when you wish to make large changes in the value.
This slider can also be used as a modulation source.

VALUE [▲][▼] keys

These are used to increase or decrease the parameter value in steps of one. It is convenient to use these to make fine adjustments.

[VALUE] dial

Use this dial to modify the value of the parameter.

Numeric keys [0] – [9], [ENTER] key, [–] key, [./HOLD] key

Use these keys to numerically input a parameter value. Use numeric keys [0]–[9], the [–] key, and the [./HOLD] key to enter the value, and press the [ENTER] key to confirm it. The [./HOLD] key lets you input a value with a decimal point. The [–] key inverts the sign (+/–) of the parameter value.

In addition, [./HOLD] can be used if you wish to select sounds by category in program or combination mode.

By holding down the [ENTER] key and pressing a numeric key [0]–[9], you can select up to ten utility menu commands for the current page.

The [ENTER] key is also used when setting the KARMA Realtime Controls knobs, switches, and keys. (☞PG p.6)

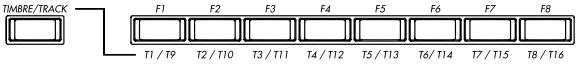
[COMPARE] key

Use this key when you wish to compare the sound of the program or combination that you are currently editing with the un-edited sound that was written into memory. You can also use this key to make "before and after" comparisons when recording or editing in Sequencer mode (☞p.15).

When you operate the KARMA Realtime Controls knobs [1]–[8] or switches [1]/[2] in Program, Combination, Sequencer, and Song Play modes, pressing the [COMPARE] key will revert to the values that were written. (PG ☞p.16)

12. LCD screen

Here you can select pages, and parameters, and set values. (☞p.10)



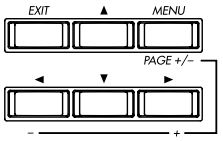
13. [TIMBRE/TRACK] key, [F1 T1/T9] … [F8 T8/T16] keys

Function [F1]–[F8] keys

These keys select the tabs that are displayed in each page. They are also used to execute utilities and other functions.

Timbre/track select [T1/T9]–[T8/T16] keys

By holding down the [TIMBRE/TRACK] key and pressing a [T1/T9]–[T8/T16] key, you can select the timbre/track parameters corresponding to the key number.
When a single page displays the parameters for timbres 1–8 of a Combination or for tracks 1–8/9–16 of Sequencer mode or Song Play mode, these keys select one of these timbres/tracks.



14. [EXIT] key, [MENU PAGE +/–] key, CURSOR keys [▲], [◄], [▼], [►]

[EXIT] key

In Program, Combination, Sequencer, Song Play, and Global modes, pressing this key from anywhere other than page 1.1 will take you to page 1.1 of that mode.
When a dialog box is open, this key will cancel the settings made in the dialog box and close the dialog box (corresponds to the "Cancel"). If a Utility menu or page menu is open, pressing [EXIT] will close the menu.

[MENU PAGE +/–] key

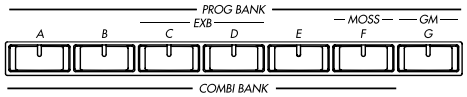
Use this key to select different pages on screen. When you press this key, a list of the pages within the mode will appear in the LCD screen. Use [F1]–[F7] or cursor keys [▲], [◄], [▼], [►] to select the desired page, and press the [F8] key to move to the selected page.
You can also move to a desired page by holding down the [MENU] key and using numeric keys [0]–[7] to enter a two-digit page number.
In addition, you can hold down the [MENU] key and use cursor keys [◄], [►] to switch pages in the order of 1.1→2.1→2.2→2.3. (☞p.14)

CURSOR keys [▲], [◄], [▼], [►]

Use these keys to select different parameters on screen.
In addition, you can hold down the [MENU] key and use cursor keys [◄], [►] to switch pages on screen.

15. [BANK] keys

These keys are used to switch Program/Combination banks.

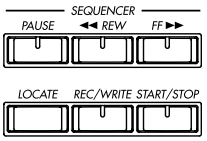


PROG BANK: [A], [B], [C], [D], [E], [F], [G]

When selecting programs, use keys [A], [B], [C], [D], [E], ([F], only available when the EXB-MOSS is installed), and [G]. The LED of the selected bank will light.
Each time you press [G], you will cycle through the GM(2) variation banks and the drum bank as follows: G, g(1), g(2), ... g(8), g(9), g(d), G ... etc.

COMBI BANK: [A], [B], [C], [D], [E], [F]

When selecting combinations, use keys [A], [B], [C], [D], [E] and [F]. The LED of the selected bank will light.
In **Combination, Sequencer**, and **Song Play modes** when the edit cell (highlighted area) is located at the program of a timbre or track, you can use the BANK keys to select the bank of the program. The bank LED of the program selected for that timbre/track will light.
In dialog boxes such as **Write Program** or **Write Combination**, these keys are used to specify the program or combination bank that will be the writing destination, etc.



16. SEQUENCER

[PAUSE] key

In Sequencer mode, this key pauses the song or cue list playback. In Song Play mode, this key-pauses SMF playback. When paused, the LED will light. Press [PAUSE] once again to defeat pause, the LED will turn off.

[◄◄ REW] key

In Sequencer mode this key rewinds the song or cue list playback. When you press and hold this key, the LED will light, and the playback will rewind. (This will not function during recording.)

[FF ►►] key

In Sequencer mode this key fast-forwards the song or cue list playback. When you press and hold this key, the LED will light, and the playback will fast-forward. (This will not function during recording.)

[LOCATE] key

In Sequencer mode, this key returns the song or cue list playback location to the specified point. In Song Play mode, this key returns the playback location of the SMF to the specified point.
If for some reason any “stuck notes” occur, press this key.

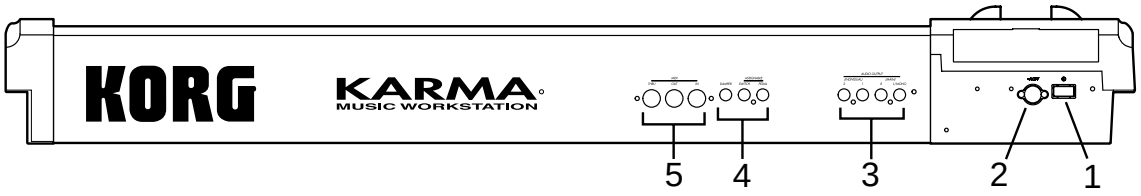
[REC/WRITE] key

In Sequencer mode, pressing this key will make the LED light, and if you then press the [START/STOP] key, recording will begin (☞p.62).
In Program, Combination and Global modes, pressing this key will open a dialog box, and if you then press the [F8] (“OK”) key, the edited contents will be written (☞p.38, p.40).

[START/STOP] key

This is the start/stop key for song or cue list recording and playback in Sequencer mode, and SMF playback in Song Play mode. (During recording and playback, the LED will blink in time with the beat.)

Rear panel



1. [POWER] switch

This switch turns the power on/off (☞p.17).

2. AC power supply connector (~AC9V)

Connect this to the included AC/AC power supply.
After connecting the power supply cable to this instrument, connect the other end to an AC outlet (☞p.12).

3. AUDIO OUTPUT

Connect these outputs to the input jacks of your amp or mixer. In addition to the L/MONO and R main stereo audio outputs, this instrument provides two individual audio outputs. The sound from each oscillator, drum, timbre/track, or insertion effect can be freely routed to any output (☞p.97–).

(MAIN) L/MONO, R

These are unbalanced phone jacks (☞p.107).
These are the main audio output jacks. By setting "Bus Select" to **L/R**, the output from an oscillator, an insertion effect, an individual drum part, or the metronome can be output to the (MAIN) L/MONO and R jacks. When making connections in stereo, use L/MONO and R. When making connections in mono, use the L/MONO jack.

(INDIVIDUAL) 1, 2

These are unbalanced phone jacks (☞p.107).
These are individual (independent) audio output jacks. These are individual (independent) audio output jacks. By several times to make the "Bus Select" to **1**, **2**, **1/2** an oscillator, an insertion effect, an individual drum part, or the metronome etc. can be assigned to be output from the (INDIVIDUAL) 1, 2 jacks. The output from the **1**, **2** jacks is not affected by the [VOLUME] slider.

4. Pedal connections

ASSIGNABLE SWITCH jack

A separately sold on/off foot switch such as the Korg PS-1 foot switch can be connected here (☞p.13).
Its function can be assigned in Global mode, allowing you to use the foot switch as a modulation controller, to select programs or combinations, or to start/stop the sequencer (☞p.101).

ASSIGNABLE PEDAL jack

A separately sold Korg EXP-2 or XVP-10 expression pedal can be connected here (☞p.13).
Its function can be assigned in Global mode, allowing you to use the pedal to control the volume, etc. (☞p.101)

DAMPER jack

A separately sold switch-type pedal such as the Korg DS-1H damper pedal can be connected here. If a DS-1H is connected, it will function as a half-damper pedal. If another switch-type pedal is connected, it will function as a damper switch. In order to ensure that the half-damper pedal functions correctly, please adjust the polarity and the sensitivity (PG ☞p.135, 145).

5. MIDI

MIDI IN connector

Musical data and sound settings etc. are received at this connector.
Use this to play this instrument from another connected MIDI device (☞PG p.245).

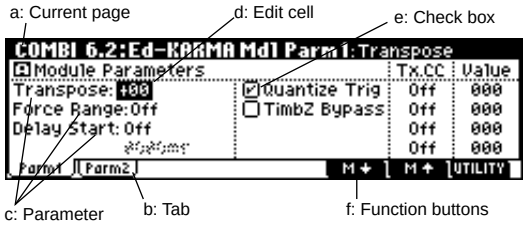
MIDI OUT connector

Musical data and sound settings etc. are transmitted from this connector.
Use this to control another connected MIDI device from this instrument (☞PG p.245).

MIDI THRU connector

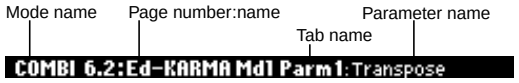
Musical data and sound settings etc. that are received at the MIDI IN connector are re-transmitted without change from the MIDI THRU connector.
You can use this to connect multiple MIDI devices via MIDI cables (☞PG p.245).

Objects and functions in the LCD screen



a: Current page

This indicates the currently selected page within the mode. From the left, this area shows the **mode name**, **page number:name**, **tab name**, and the **parameter name** of the edit cell.



b: Tab

Most pages are divided into two or more tabs. By pressing the closest function key [F1]–[F7], you can select a tab to access the corresponding page.

c: Parameters

The parameters for various settings are displayed in the LCD screen. Use cursor keys [▲], [◄], [▼], [►] to select the desired parameter.

d: Edit cell

When you use the cursor keys [▲], [◄], [▼], [►], the selected **parameter** will be highlighted in the LCD screen. This area is called the **edit cell**, and your editing will affect the highlighted area.
The parameter value of the edit cell can be modified using VALUE controllers such as the [VALUE] slider, [VALUE] dial or the VALUE [▲], [▼] keys (☞p.15). For parameters that accept a key number or a velocity value, you can also hold down the [ENTER] key and play a note on the keyboard to enter the key number or velocity value.

e: Check box

Use cursor keys [▲], [◄], [▼], [►] to select a check box (edit cell), and use a VALUE controller such as the [VALUE] slider, [VALUE] dial or the VALUE [▲], [▼] keys to add or remove the check mark.
When **checked**, the parameter will function, when **unchecked**, the parameter will not function.

f: Function buttons

By pressing the function key [F1]–[F8] nearest this button, you can turn various functions on/off.

M+ M+ :
In Combination, Sequencer, or Song Play modes, these are used to select the KARMA module that you wish to edit.
U P , OPEN :
In Song Play mode or Disk mode, these select the current directory.
UTILITY :
Accesses the utility menu where you can execute **utility menu** commands.

Other function buttons examples

Sequencer mode:	EDIT/DONE, INSERT, CUT, COPY, JUMP, DONE, Tie, Rest, Back, Done (used in Cue List, Event Edit, Step Recording) REVERT (copy and paste RPPR settings)
Song Play mode:	ADD, DELETE (create jukebox list)
Global mode:	TEXT, KEY+, –

* Utility menu

In each page, you can press the "UTILITY" function button (the [F8] key) to access the utility menu. The utility menu contains commands that can be used in that page. The utility menu that appears will differ depending on the page that is selected.

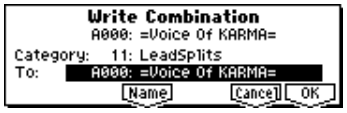
You can also select up to ten utility menu commands by holding down the [ENTER] key and pressing a numeric key [0]–[9]. Press the [EXIT] key to close the utility menu.

For ▽, press the [F7] key to select the desired utility menu command. You can also use the cursor keys [▲], [◄], [▼], [►] to make your selection. For OK, press the [F8] key to open the dialog box of the selected utility menu command.
This key also switches the status of commands that you check or uncheck.

* Dialog boxes

When you select a utility menu command etc., a **dialog box** will open.
Use the cursor keys [▲], [◄], [▼], [►] to select parameters. Use the VALUE controllers (☞p.15) to input the parameter values. When selecting program or combination numbers in a dialog box, you can use the BANK [A]–[G] keys in addition to the VALUE controllers.
As in the utility menu, press the function key [F1]–[F8] nearest ▽ etc. (function button 2) to access

the execution or operation screen. In some cases, a dialog box will appear. Follow the directions shown in the dialog box.
To execute, select [OK] (press the [F8] key). To cancel without executing, select [Cancel] (press the [F7] key). The dialog box will close. The [EXIT] key is equivalent to "**Cancel**," "**Done**," or "**Exit**."



* Function buttons 2

Press the function key [F1]–[F8] nearest this button to execute the function.
[▽] [OK]:
Utility menu, etc.

* Text dialog box

When you use the function keys to select [Name] etc, a **text dialog box** will appear.
In this dialog box you can rename text (e.g., the name of a program, combination, or song). (+p.39)

* Scroll bar

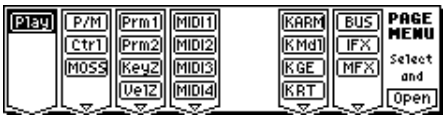
This indicates that the list contains selections or parameters that cannot all be shown in the screen at once. Use the cursor keys [▲], [◄], [▼], [►] to move within the list.

* Page menu

In Combination, Program, Sequencer, Song Play, or Global modes, pressing the [MENU] key will display a list of the pages in that mode. (The page in which you where when you pressed the [MENU] key will be highlighted.)

To select a page, press the nearest function key [F1]–[F7]. By pressing the same key you can move consecutively downward. You can also use cursor keys [▲], [◄], [▼], [►] to move left/up/down/right.

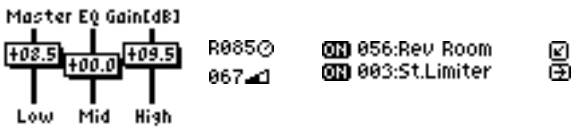
You can also move to the desired page by holding down the [MENU] key and using numeric keys [0]–[7] to enter a two-digit page number. In addition, you can hold down the [MENU] key and use the cursor keys [◄] [►] to move in steps of one page; in the example shown below, this would be Play Æ P/M Æ Ctrl Æ MOSS (if the EXB-MOSS is installed) Æ Prm1 Æ ... etc.



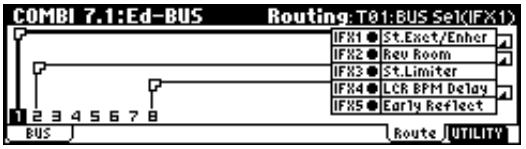
* Other objects

To use slider- or knob-shaped objects, or chain parameter values, use the cursor keys [▲], [◄], [▼], [►] to select the desired item, and use the VALUE controllers to adjust the value.
Other types of objects are shown in the effect routing screen. (+p.97)

Sliders Knobs Chain



Routing



Connections

Connecting audio equipment etc.

Connections must be made with the power turned off. Please be aware that careless operation may damage your speaker system or cause malfunctions.

1. Connecting the power cable

○ **Connect the included AC/AC power supply to the AC power supply inlet of this instrument, and then connect the other end of the cable to an AC outlet.**

2. Connecting audio output devices

AUDIO OUTPUT (MAIN) L/MONO, R, (INDIVIDUAL) 1, 2

Here, you can connect a set of amplified monitor speakers or your audio system to output this instrument's sound.
If you wish to use the AUDIO OUTPUT (INDIVIDUAL) 1–2 jacks of this instrument, we recommend that you use a mixer.

If you playback this instrument through your stereo audio system, be aware that high volumes may damage your speakers. Be careful not to raise the volume excessively.

○ **Connect the AUDIO OUTPUT (MAIN) L/MONO and R jacks to the INPUT jacks of your powered monitor system, mixer etc.**

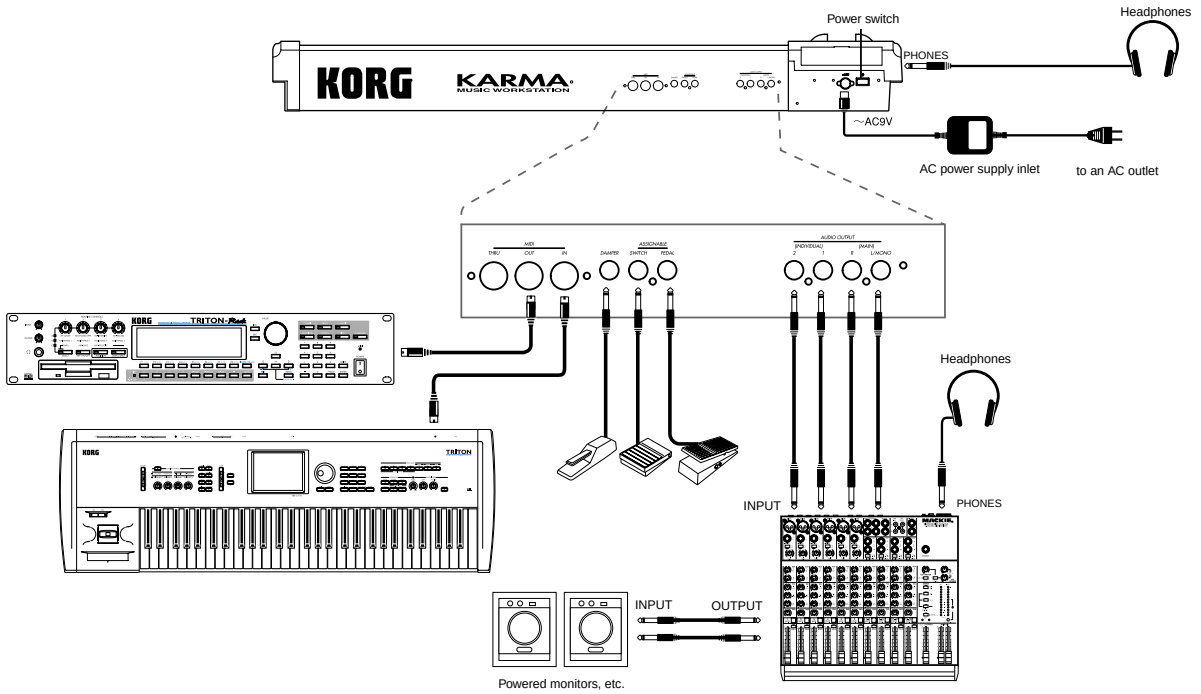
L/MONO and R are the main outputs. If you are outputting in stereo, make connections to the (MAIN) L/MONO jack and the R jack. If you are outputting in monaural, make connections to the (MAIN) L/MONO jack. We recommend that you playback in stereo if possible.

○ **If you wish to output from the AUDIO OUTPUT (INDIVIDUAL) 1, 2, jacks, connect these jacks to your mixer, and then connect the mixer output to the INPUT of your powered monitor system etc.**

For details on the output of each jack (☞p.97–"Routing").

Headphones

When using headphones, plug them into the headphones jack located on the front panel.



3. Connecting pedals etc.

Foot pedal connections

Connect a separately sold Korg assignable pedal such as the XVP-10 or EXP-2 to the rear panel ASSIGNABLE PEDAL jack.
The function controlled by the foot pedal is specified in GLOBAL 6.1-1i Controller, Foot page "Foot Pedal Assign" (☞p.101, PG p145, 233).

Foot switch connections

A foot switch controls sostenuto, soft pedal on/off, arpeggiator on/off, to select programs or combinations, and to start/stop the sequencer etc.
Connect a separately sold Korg foot switch such as the PS-1 to the rear panel ASSIGNABLE SWITCH jack.
The function that will be controlled by the foot switch and the polarity of the foot switch can be set in GLOBAL 6.1-1i Controller, Foot page "Foot Switch Assign," and "Foot Switch Polarity" (☞p.101, PG 145, 232).

Damper pedal connections

Allows you to sustain the sound while playing.
Connect a Korg DS-1H damper pedal (separately sold option) to the rear panel DAMPER jack. If a DS-1H is connected, you can produce half-damper effects.
The polarity of the damper pedal can be set in GLOBAL 6.1-1: Controller, Foot "Damper Polarity," and its sensitivity can be adjusted by the GLOBAL 1.1-1 System utility menu command "Half Damper Calibration." (☞PG p.135, 145)

Connections to MIDI equipment / computers (MIDI connectors)

1. Connections to MIDI equipment

The keyboard, controllers, and sequencer etc. of this instrument can be used to control an external MIDI tone generator. Conversely, another MIDI keyboard or sequencer can control the tone generator of this instrument to produce sound.

○ **Use MIDI cables to connect the MIDI connectors of this instrument with the MIDI connectors of your external device.**

☞ PG p.245 "MIDI applications – Connecting MIDI equipment / computers"

2. Connections to a computer

Your performance on this instrument, as well as controller and sequencer data, can be sent to a computer (connected via MIDI interface), and the tone generator of this instrument can be played from the computer.

○ **Use a MIDI interface to connect the MIDI connectors of this instrument to the MIDI connectors of your computer.**

☞ PG p.245 "MIDI applications – Connecting MIDI equipment/computers"

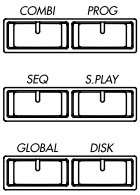
Basic operation

Selecting modes, pages and tabs; setting parameters

1. Selecting modes

○ **In order to use a particular function on the KARMA, you must first select the appropriate mode. Press one of the front panel mode keys ([COMBI] key – [DISK] key) to enter the corresponding mode.**

[COMBI] key:	**Combination mode**
[PROG] key:	**Program mode**
[SEQ] key:	**Sequencer mode**
[S.PLAY] key:	**Song Play mode**
[GLOBAL] key:	**Global mode**
[DISK] key:	**Disk mode**



2. Selecting pages and tabs

Each mode has a large number of parameters, which are grouped into pages. Each page is further divided into as many as seven groups. These are referred to as **"tabs."**

Selecting a page

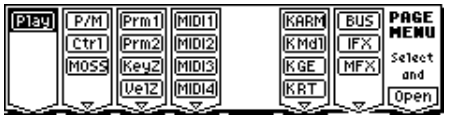
① **Make sure that the desired mode is selected.**

To select a mode, press the appropriate mode key ([COMBI] – [DISK]). Here we will use Combination mode as an example for our explanation. Press the [COMBI] key.

COMBI 1.1:Play Combination:Combi Select
Bank A Category 11:LeadSplits ♩=106
000: =Voice Of KARMA=
Combi Prog Mix KARMA K.RTC Note UTILITY

② **Press the [MENU] key.**

The page menu will appear.



note In Disk mode there is only one page, so the page menu will not appear.

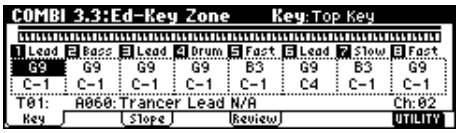
③ **Press the function key [F1]–[F7] that is nearest the page you wish to select.**

If multiple pages are assigned to one function key, press the same key to move the cursor downward. You can also use the [▲], [◄], [▼], [►] cursor keys to move.

④ **Press the [F8] ("Open") key.**

When you press the [F8] key, you will jump to the selected page, and that page will appear.

As an example here, press the [F3] key three times to select "KeyZ," and then press the [F8] ("Open") key. The 3.3: Ed-Key Zone page will appear.


COMBI 3.3:Ed-Key Zone Key:Top Key
1 Lead 2 Bass 3 Lead 4 Drum 5 Fast 6 Lead 7 Slow 8 Fast
G9 G9 G9 G9 B3 G9 B3 G9
C-1 C-1 C-1 C-1 C-1 C4 C-1 C-1
T01: A060:Trancer Lead N/A Ch:02
Key Slope Review UTILITY

note You can also use the following alternative methods to select a page.

- Press the [MENU] key, and then use the [◄] [►] keys to move forward or backward through the pages in the order of 1.1→2.1→2.2→2.3 etc.
- Hold down the [MENU] key, and use numeric keys [1]–[7] to enter a two-digit page number to move directly to the corresponding page. (To select the page shown above, you would press [3], [3].)
  If only one page is assigned to each function key (group), as in COMBI 1.1: Play or the pages of Global mode, the first digit of the numeric key [1]–[7] will move to the corresponding page.

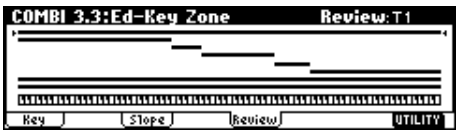
The page selected at this time will be the page that was last selected. If there is no corresponding page, nothing will happen.

note When you press the [EXIT] key, you will return to 1.1 from any page.

Selecting a tab

⑤ **Press the function key [F1]–[F7] that is nearest the tab displayed at the bottom of the LCD screen.**

As an example, we will select the "Review" tab. Press the [F5] key.



note Some pages have no tabs.

⑥ **To move to another page, press the [MENU] key and repeat the procedure from step ③.**

3. Selecting parameters

Use the [▲], [◄], [▼], [►] cursor keys to select the parameter that you wish to edit.

In Combination mode pages that display timbres 1–8, or in Sequencer and Song Play mode pages that display tracks 1–8 or 9–16, you can hold down the [TIMBRE/TRACK] key and press the nearest function key [F1]–[F8] to select the desired timbre or track.

4. Setting a parameter

The parameter value in the edit cell can be set by using the front panel VALUE controllers (VALUE [▲], [▼] keys, [VALUE] dial, [VALUE] slider numeric keys [0]–[9], [–] key, [./HOLD] key, and [ENTER] key). As necessary, you can also use the BANK [A]–[G] keys, and the [COMPARE] key.
In the case of parameters that require you to enter a note or velocity value, you can enter the value by playing a key on the keyboard while holding down the [ENTER] key.

VALUE controllers

[VALUE] slider

Use this when you wish to make major changes in the value.
In Program mode and Combination mode, this slider can also be used as a control source for alternate modulation or dynamic modulation. (This is active in Program or Combination 1.1: Play when the "Program Select" or "Combination Select" is selected).

VALUE [▲], [▼] keys

Use these when you wish to make fine adjustments to the value.

[VALUE] dial

Use this when you wish to make large changes in a value.

Numeric keys [0]–[9], [ENTER] key, [–] key, [./HOLD] key

Use these when you know the parameter value that you wish to input.
After using the numeric keys [0]–[9] to input a number, press the [ENTER] key to finalize the parameter value.
Use the [–] key to enter negative numbers.
Use the [./HOLD] key to enter a decimal point. In the 1.1: Play page of Program and Combination modes, the [./HOLD] key will perform the Category Hold or 10's Hold function. (☞PG p.2)
The [ENTER] key is also used when setting the KARMA Realtime Controls knobs and switches. (☞PG p.6)

BANK [A]–[G] keys

The [BANK] keys are used in Program mode to select the program bank and in Combination mode to select the combination bank. In Combination mode, they are also used to select the program bank for each timbre of the combination. In Sequencer and Song Play modes, these keys are used to select the bank of the program used by each track of the song.

These keys are also used to specify the bank in dialog boxes such as Write Program or Write Combination.

[COMPARE] key

Use this key when you wish to compare an edited program or combination sound with the un-edited original (i.e., the sound that is written into memory).
When editing a program or combination, press this key. The LED will light, and the last-written settings for that program number or combination number will be recalled. When you press the [COMPARE] key once again, the LED will go dark and you will return to the settings that you were editing.
If you edit the settings that are recalled by pressing the [COMPARE] key (i.e., the settings that are written into memory), the LED will go dark, and it will not be possible to return to the previous settings by pressing the [COMPARE] key again.

In Sequencer mode, you can use the [COMPARE] key to make "before and after" comparisons immediately after using realtime recording or step recording to record a song, or after performing a track edit operation.

For example, this can be used effectively when realtime-recording a track for a song.

① Realtime-record a track. (Take 1)

② Once again, realtime-record on the same track. (Take 2)

③ Press the [COMPARE] key. The LED will light, and take 1 will be recalled.

④ Press the [COMPARE] key once again. The LED will turn off, and take 2 will be recalled.

⑤ If after recording two different takes on the same track, you record a third, the Compare function will now alternate between the second and third takes. Recording a fourth take will mean that Compare now alternates between takes three and four, and so on. In this fashion, Compare always alternates between the last two recorded passes that are made on the same track.

In this way, the Compare function lets you recall the previous recording or the previous state of event editing.

The Compare function is not available Global modes.

When operating the KARMA Realtime Controls knobs [1]–[8] and switches [1]/[2] in Program, Combination, Sequencer, and Song Play modes, pressing the [COMPARE] key will revert to the settings that were written. (☞PG p.6)

Keyboard input

When inputting a note name or velocity value as the value of a parameter, you can use the keyboard to input the setting. Hold down the [ENTER] key and play the note that you wish to enter as a value. The note name (number) or velocity value will be input.

When the GLOBAL 5.1: DKit page or SEQ 5.1: RPPR, RPPR Setup page is displayed, you can hold down the [ENTER] key and play a note to recall the settings that have been assigned to the note you played.

Quick Start

Turning the power on/off

Before you turn on the power, make sure that the desired connections have been made as described in "Connections" (☞p.12).

1. Turning the power on

① **Press KARMA Music Workstation'S [POWER] switch to turn on the power.**

The LCD screen will display the name of your model, and the software version.
(The following graphic shows the factory-set LCD screen . The version number is subject to change without notice.)

② **Turn on your powered monitors or stereo amp.**

③ **Raise this instrument's [VOLUME] slider to an appropriate level, and adjust the volume of your powered monitors or stereo amp.**

2. Turning the power off

① **Set this instrument's [VOLUME] slider and the volume of your powered monitor or stereo amp to zero.**

② **Turn off the power of your powered monitor or stereo amp.**

③ **Press this instrument's [POWER] switch to turn off the power.**

Never turn off the power while data is being written into internal memory.
If the power is turned off while processing is being performed, memory write operations will not be completed correctly. If this occurs, this instrument will automatically initialize its internal memory so that it will operate correctly. This is not a malfunction.

While data is being written, the LCD screen will indicate "Now writing into internal memory."
Data is written into internal memory by the following operations.

- Writing (updating) a Program, Combination, Global Setting, or Drum Kit
- Loading Program, Combination, Global Setting, or Drum Kit data in Disk mode
- Receiving a MIDI data dump for Program, Combination, Global Setting, or Drum Kit data

The mode and page that will be selected when the power is turned on

The state of this instrument when the power is turned on will depend on the setting of "**Power On Mode**" (GLOBAL 1.1: System, Preference page).

If "**Power On Mode**" is **Reset** (factory setting), this instrument will automatically selects the Combination mode 1.1: Play.

If "**Power On Mode**" is **Memorize**, this instrument will be in the mode and page that were last selected when the power was turned off.

The **Memorize** setting will remember the mode and page that were last selected, the combination number that was last selected in Combination mode, and the program number that was last selected in Program mode. If another mode is selected when the power is turned on, you can press the [COMBI] key or [PROG] key to select the 1.1: Play page with the last-selected combination number or program number.

The LCD screen when separately sold options are installed (When the power on)

This instrument allows you to install separately sold options.
When the power is turned on, the type of installed options will be displayed. After installing an option, be sure to check this display to verify that the option was installed correctly. If the option is not displayed here even though it was installed, it was not installed correctly. Turn off the power and re-install the option.
(☞For details on installing an option, refer to PG p.264)

OPTIONS
EXB-PCM Slot1 (****):
EXB-PCM Slot2 (****):
A PCM expansion board is installed in EXB-PCM series slot 1, 2. The type of board is shown in parentheses.
EXB-MOSS: The EXB-MOSS option is installed.

Listening to a demo song

Contents of the disks

This instrument comes with one floppy disk (KMFD-00P).

PRELOAD.PCG

- Preloaded data (programs, combinations, drum kits, global settings)

note When you load PRELOAD.PCG, it will be written into internal memory. This data is preserved even if the power is turned off.

When you load PRELOAD.PCG, the data that had been written before loading this data will be rewritten. If you wish to keep this data, you must first save it on a floppy disk before loading PRELOAD.PCG (☞p.38).

PRELOAD.SNG

- Demonstration song and demonstration cue list data

note When you load PRELOAD.SNG, it will be written into internal sequencer memory. This memory is volatile, and the data will be lost when the power is turned off.

When you load PRELOAD.SNG, the data that had been written before loading this data will be rewritten. If you wish to keep this data, you must first save it on a floppy disk before loading PRELOAD.SNG. (☞p.38)

Loading the demo song data in Disk mode

① **Insert the included "KMFD-00P" floppy disk into the disk drive.**

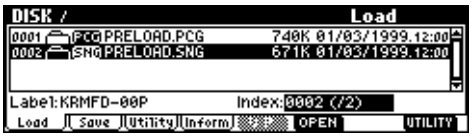
For details on handling a floppy disk and inserting it into the disk drive, refer to ☞p.93.

② **Press the [DISK] key (the LED will light).**

You will enter Disk mode.

③ **Press the [F1] ("Load") key to access the Load page.**

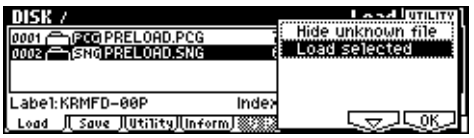
File information will be displayed.



④ **Use the cursor keys [▲], [▼] to select "PRELOAD.SNG."**

The display will be highlighted. This is the demo song data.

⑤ **Press the [F8] ("UTILITY") key, and choose the "Load selected" utility.**



⑥ **Press [8]"OK" key.**

A dialog box will appear.

⑦ **Press the check boxes to add a check mark.**

Press the VALUE [▲] to **check "Load PRELOAD.PCG too."** When the data is loaded, the .PCG file will be loaded along with the .SNG file.

⑧ **Press the [F8] ("OK") key.**

The data will be loaded in the order of PRELOAD.PCG and PRELOAD.SNG.

Never remove the media while data is being loaded.

If the Memory Protected dialog box appears, uncheck memory protect, and try the loading operation once again. (☞p.38)

Selecting and playing a demonstration song in Sequencer mode

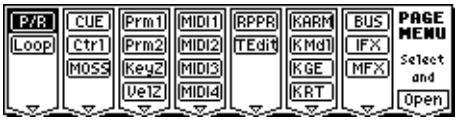
① **Press the [SEQ] key (the LED will light).**

You will enter Sequencer mode.

② **Access the SEQ 1.1: Play/REC, Play/REC page.**

If the SEQ 1.1: Play/REC, Play/REC page does not appear, select it as follows.

1) Press the [MENU] key.
The LCD screen will show a list of the pages in Sequencer mode.



2) Press the [F1] key to select **"P/R,"** and press the [F8] ("OPEN") key.
3) Press the [F1] key. The SEQ 1.1: Play/REC, Play/REC page will be displayed.

③ **Use the cursor keys [▲], [▼] to choose "Song Select."**

The song name will be highlighted.

④ **Use the VALUE [▲], [▼] keys or other [VALUE] controllers to select the demo song that you wish to play.**

⑤ **Press the [START/STOP] key.**

The LED will blink and the selected song will play.

⑥ **If you wish to stop playback, press the [START/STOP] key once again.**

Playing a cue list

Here's how to playback the demonstration cue list. By using a cue list, you can repeatedly play multiple songs that you specify in the cue list, or play songs consecutively. (☞p.68)

① **Press the [MENU] key.**

② **Press the [F2] key to select "CUE," and then press the [F8] ("OPEN") key.**

The SEQ 2.1: CUE List, Setup&Play page will appear.

③ **Press the [START/STOP] key.**

④ **To stop playback, press the [START/STOP] key once again.**

If the last step is **End**, playback will stop automatically when it reaches that point. If the last step is **Continue to Step01**, playback will return to the first step and continue.

To select a cue list, choose "Cue List Select," and use the same procedure as when selecting a song. Refer to step ④ above.

Selecting and playing a program

In Program mode you can select a program from **banks A–G** and play it. Here we will show how to select preset programs. Select various programs and hear how they sound.

Selecting a program

① **Press the [PROG] key. (LED lit)**

You will enter Program mode. Make sure that the upper line of the LCD screen indicates "PROG 1.1: Play."

Selecting a program number

② **Make sure that "Program Select" is selected.**

If it is not selected, use the cursor keys [▲], [◄], [▼], [►] to highlight the program name in "**Program Select**."

③ **Use the VALUE controllers to select the program that you wish to play.**

You can use the following methods to select a program.

- Rotate the [VALUE] dial.
- Press the VALUE [▲] or [▼] key.
- Use numeric keys [0]–[9] to specify the number, and press the [ENTER] key.

note In the 1.1: Play page, the [VALUE] slider will function as a controller, and cannot be used to select programs.

④ **Audition the sound.**

Play a note on the keyboard to hear the sound you selected.

Selecting the program bank

In Program mode, you can switch banks to select programs from another bank.
With the factory settings, banks A, B, E and G–g(d) contain programs. (☞ table bellow)

⑤ **Press a BANK [A]–[G] key to select a bank.**

The selected bank will be displayed in the left side of the LCD screen. For example if you wish to select bank B, press the BANK [B] key. (The upper left of the LCD screen will indicate Bank B.)

Bank	Prog. No.	Explanation
A, B, E	000…127	for preloaded programs
C, D	000…127	for EXB-PCM series programs or user programs
F	000…127	for EXB-MOSS programs
G	000…128	GM2 capital programs
g(1)…g(9)	(☞VNL)	GM2 variation programs
g(d)	(☞VNL)	GM2 drum programs

A, B, E With the factory settings, these banks contain a wide variety of preloaded programs that use the internal PCM ROM multisamples, effects, and the KARMA function.

C, D With the factory settings, these banks do not contain programs. Programs for the separately sold EXB-PCM series options or programs that you yourself create can be stored in these banks.

F This bank is only available to be selected/used when the separately sold EXB-MOSS option is installed. It is only used to store EXB-MOSS programs, and cannot hold regular PCM-based Programs.

128 programs can be written or rewritten to each bank **A–F** (for a total of 768).

G, g(1)...g(9), g(d)

These banks contain 256 and 9 drum programs that are compatible with the GM2 sound map. The programs of these banks are read-only. Bank G contains the GM2 capital programs. They consist of banks G, g(1)–g(9), and g(d). You can select 128 programs, from 001–128.

Each time you press the [G] key, the bank will alternate as shown below.

G→g(1)→g(2)→g(3)→g(4)→g(5)→g(6)→g(7)→g(8)→g(9)→g(d)→G

☞ For details of the program names etc., refer to "VNL" (Voice Name List).

Selecting programs by category

You can select programs by categories such as keyboard, organ, bass, and drums.
With the factory settings, all the preloaded programs are organized into sixteen categories. You can choose a category, and then select from the programs in that category.

On this instrument, you can use one of the following two methods to select programs by category.

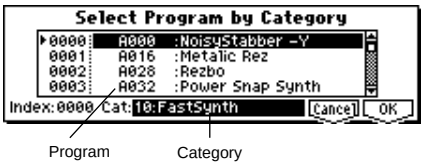
Select by Category

① **Make sure that PROG 1.1: Play is displayed.**

② **Press the [F8] ("UTILITY") key to access the utility menu.**

③ **Press the [F7] key or use the cursor keys [▲], [▼] to choose "Select by Category," and press the [F8] key.**

The Select Program by Category dialog box will appear. The list within the frame displays the programs included in the category.



④ **Choose "Cat," and use the [VALUE] controllers to select the category that contains the desired program.**

⑤ **Use the cursor keys [▲], [▼] to select a program within the list. Alternatively, you can use the cursor keys [◄] [►] to select "Index," and then use the [VALUE] controllers to make your selection.**

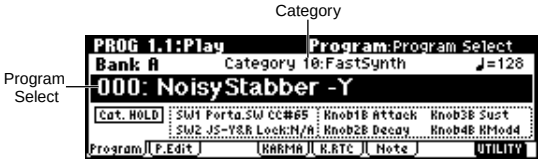
At this time you can play the keyboard to hear the selected sound.

⑥ **To execute, press the [F8] ("OK") key. To cancel, press the [F7] ("Cancel") key.**

Cat. HOLD (Category Hold)

① **Press the [./HOLD] key to display Cat. HOLD.**

The category will be fixed.



② **Use the cursor keys [▲], [◄], [▼], [►] to choose "Category," and use the VALUE controllers to specify the category.**

③ **Use the cursor keys [▲], [◄], [▼], [►] to choose "Program Select," and use the VALUE [▲], [▼] keys or [VALUE] dial to successively select programs in that category.**

④ **To exit the Category Hold function, press the [./HOLD] key twice to erase the Cat. HOLD display.**

In PROG 1.1: Play, pressing the [./HOLD] key will cycle through Cat. HOLD → 10's HOLD → cancel.

Using 10's HOLD to select programs

You can fix the ten's place of the program number as you select programs.

① **Press the [./HOLD] key to make the display indicate 10's HOLD.**

The ten's place of the program number will be held (fixed).

② **By pressing a numeric key [0]–[9], you can input the one's place in a single action.**

③ **You can use the VALUE [▲], [▼] keys to change the ten's place.**

④ **To cancel the 10's HOLD function, press [./HOLD] to erase the 10's HOLD display.**

Using a connected switch to select programs

A separately sold on/off-type switch (such as the separately sold Korg PS-1) can be connected to the rear panel ASSIGNABLE SWITCH connector, and assigned a program select function. (☞p.101)

Selecting programs from a MIDI device

MIDI program change messages can be transmitted from an external MIDI device, and received by this instrument to select programs.(☞PG p.246)

Selecting and playing a combination

In Combination mode you can select a combination from **banks A–F** and play it. Select various combinations and hear how they sound.

Selecting a combination

① **Press the [COMBI] key. (LED lit)**

You will enter Combination mode. Make sure that the upper line of the LCD screen indicates "COMBI 1.1: Play."

Selecting a combination number

② **Make sure that "Combi Select" is selected.**

If it is not selected, use the [▲], [◄], [▼], [►] to highlight the combination name in "**Combi Select**."

③ **Use the [VALUE] controllers to select the combination that you wish to play.**

☞p.20 "Selecting a program" ③

④ **Audition the sound.**

Play a note on the keyboard to hear the sound you selected.

Selecting the combination bank

In Combination mode, you can switch banks to select combinations from another bank.
With the factory settings, banks A, B, and E contain combinations. (☞ table bellow)

⑤ **Press a BANK [A]–[F] key to select a bank.**

The selected bank will be displayed in the left side of the LCD screen. For example if you wish to select bank B, press the BANK [B] key. (The upper left of the LCD screen will indicate **Bank B.**)

Bank	Prog. No.	Explanation
A, B, E	000…127	for preloaded combinations
C, D	000…127	for EXB-PCM series combinations or user combinations
F	000…127	for EXB-MOSS combinations or user combinations

A, B, E With the factory settings, these banks contain a wide variety of preloaded combinations that use multiple programs, effects, and the KARMA function.

C, D With the factory settings, these banks do not contain combinations. Combinations for the separately sold EXB-PCM series options or combinations that you yourself create can be stored in these banks.

F With the factory preload, this bank does not contain any combinations. Combinations for the separately sold EXB-MOSS option are stored in this bank, or you can use it to store your own combinations, using either PCM-based or MOSS-based programs as desired.

128 programs can be written or rewritten to each bank **A–F** (for a total of 768).

☞ For details of the combination names etc., refer to "VNL" (Voice Name List).

Selecting combinations by category

You can select combinations from sixteen categories in the same way as for programs.
With the factory settings, all the preloaded combinations are organized into sixteen categories. You can choose a category, and then select from the combinations in that category.
☞p.21 "Selecting programs by category"

Using 10's HOLD to select combinations

You can fix the ten's place of the combination number, so that a combination can be selected simply by pressing a numeric key once to change the one's place.
☞p.21 "Using 10's HOLD to select programs"

Using a connected switch to select combinations

An separately sold on/off type foot switch such as the Korg PS-1 can be connected to the ASSIGNABLE SWITCH jack, and used to select combinations.
(☞p.101)

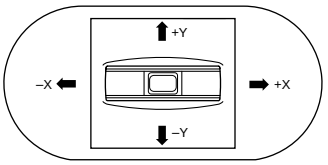
Selecting combinations from a MIDI device

MIDI program change messages can be transmitted from an external MIDI device, and received by this instrument to select combinations.(☞PG p.247)

Using controllers to modify the sound

This instrument provides a variety of controllers that can be used to control the tone, pitch, volume, effects, and arpeggiator etc. in realtime while you play.

Joystick



JS(+X): Move the joystick toward the right to apply an effect. Normally this is used to control the pitch (bend up).

JS(–X): Move the joystick toward the left to apply an effect. Normally this is used to control the pitch (bend down).

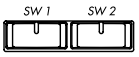
JS(+Y): Move the joystick away from yourself to apply an effect. Normally this is used to control the oscillator LFO (vibrato).

JS(–Y): Move the joystick toward yourself to apply an effect. Normally this is used to control filter LFO (wah).

note You can use the Lock function of SW 1 or 2 to hold the effect even after the joystick is returned to the center position. For the procedure, refer to "SW1, SW2."

note You can use the joystick as a source for alternate modulation or effect dynamic modulation, to control program parameters or effect parameters.

SW1, SW2



You can use these keys as sources for alternate modulation or effect dynamic modulation to control program parameters or effect parameters.
These switches can also be used to switch the octave, to turn portamento on/off, or to lock the position of the after touch function.

You can specify the way in which the [SW1] and [SW2] keys will operate: either **Toggle**, when the assigned function will be switched on/off each time the key is pressed, or **Momentary**, when the assigned function will be switched on only as long as you hold down the key.

note The function of the [SW1] and [SW2] keys can be verified for Program mode in the 1.1: Play, Program page, or for Combination mode in the 1.1: Play, Combination page. (☞p.25)

note When you write a program or combination, the on/off status of the [SW1] and [SW2] keys is saved.

note For details on making these settings, refer to ☞p.103 "Setting the function of [SW1] and [SW2]".

The Lock function

Joystick

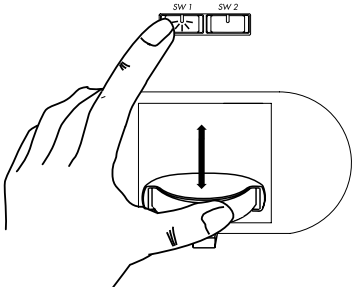
When the [SW1] or [SW2] key function is set to **JS X Lock**, **JS+Y Lock**, or **JS–Y Lock**, the sound produced by moving the joystick can be held even after the joystick is returned to the center position.

When the [SW1] key is set to **JS–Y Lock** and is operating as a **Toggle** switch, the lock function can be used as described in the following example.

① **Move the joystick toward yourself to modify the sound.**

② **While continuing to hold the joystick toward yourself, press [SW1] (the [SW1] key LED will light).**

The sound at this point will be held.



③ **Even if you release the joystick, or move it toward yourself once again, the sound will remain unchanged from when the [SW1] key was pressed.**

This is the **"locked"** condition. Moving the joystick to left or right will produce the normal result.

④ **To release the locked condition, press the [SW1] key once again.**

After touch

When the [SW1] or [SW2] key function is set to **AfterT Lock**, the sound produced by applying pressure to the keyboard can be held even after the keyboard is released.

When the [SW1] key is set to **AfterT Lock** and is operating as a **Toggle** switch, the lock function can be used as described in the following example.

① **After playing a note, apply pressure to the keyboard (after touch).**

The sound will change.

② **While maintaining the pressure on the keyboard, press [SW1] (the [SW1] key LED will light).**

③ **Even when you apply further pressure to the keyboard, the sound at the moment you pressed [SW1] key will be held. This is the "locked" condition.**

④ **To release the locked condition, press the [SW1] key once again.**

REALTIME CONTROL [1], [2], [3], [4]

These knobs can be used to control the filter cutoff frequency and resonance, the amp and filter EG, volume, portamento time, pan, pitch LFO, or the send levels to the master effects, etc.

① **Press the REALTIME CONTROLS [SELECT] key to switch the function of the realtime controllers to A mode or B mode.**

Each time you press the key, A mode or B mode will be selected alternately, and the corresponding LED will light.

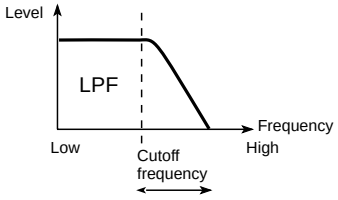
② **Rotate the desired knob to control the sound, etc.**

A mode controls

In A mode, knobs [1]–[4] will control/edit the following functions.
Placing the knobs in the center (12 o'clock) position will produce the values specified by the program parameters.

Knob [1]: LPF CUTOFF

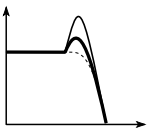
Adjust the cutoff frequency of the low pass filter.
When you adjust the cutoff frequency of the filter, the brightness of the sound will change. The effect will depend on the settings of the program parameters, but normally, rotating the knob toward the left will darken the sound, and rotating it toward the right will brighten it.



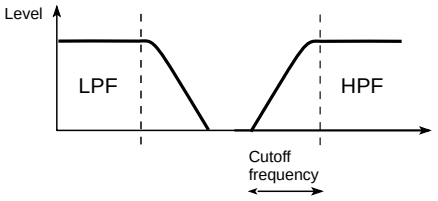
Knob [2]: RESONANCE/HPF

Adjust the resonance level of a low pass filter or the cutoff frequency of a high pass filter.
The content that is controlled will depend on the filter type specified by the program.

By adjusting the filter resonance level, you can increase or decrease the resonance level to add a unique character to the sound.



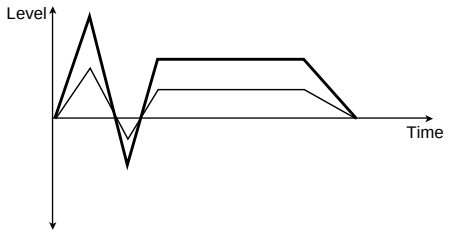
By adjusting the cutoff frequency of a high pass filter, you can modify the brightness of the sound.



Knob [3]: EG-INTENSITY

Adjust the filter EG intensity (the depth at which the filter EG is applied).

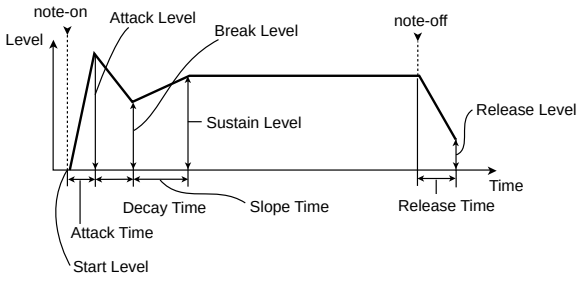
Rotating the knob will affect the depth of the filter EG. Normally, rotating the knob toward the left will make the filter EG apply less deeply, and rotating it toward the right will make the filter EG apply more deeply. Since the filter EG will operate based on the cutoff frequency of the filter, knobs [1] and [3] will work together to control the tonal changes produced by the filter.



Knob [4]: EG-RELEASE

Adjust the EG release times of the filter and amp. This will determine the time from note-off until the sound disappears.

When you operate the knob, the release times of the filter EG and the amp EG will change. Normally, rotating the knob toward the left will shorten the release time, and rotating it toward the right will lengthen the release time.



B mode controls

You can control parameters such as volume, portamento time, pan or filter and amp EG, pitch LFO, and master effect send levels etc.

The B-mode function settings are made for each individual program, combination, or song. In Sampling mode and Song Play mode, the B-mode functions are set for the entire mode. (☞p.103).

Viewing the parameters that are assigned to [SW1], [SW2], and the realtime control B mode

In Program and Combination modes, the B-mode functions of the realtime control knobs [1], [2], [3], and [4] and [SW1]/[SW2] switches can be verified in the 1.1: Play page.

Functions assigned to the [SW1] and [SW2] keys

Functions assigned to Knob1—4

[VALUE] slider

When the **"Program Select"** is selected in PROG 1.1 Play, or when the **"Combi Select"** is selected in COMBI 1.1: Play, you can use the [VALUE] slider as a source for alternate modulation or effect dynamic modulation, and control program parameters or effect parameters.

Keyboard

Velocity

The force with which you play a note can apply an effect.
Normally this is used to control volume, or the speed or sensitivity of the EG.

After Touch

This effect can be applied by varing pressure on a key-while it's being held down.
Normally this is used to control volume, tone (cutoff frequency), or LFO sensitivity etc.

Note Number

Varing amounts of an effect will be applied depending on your location on the keyboard.
Normally this is used to control volume, tone (cutoff frequency), LFO sensitivity, and EG sensitivity etc.

note This can be used as a source for alternate modulation or effect dynamic modulation, to control program parameters or effect parameters.

Velocity, After Touch and Note Number can all be used as Dynamic MIDI Sources to control the KARMA function (☞PG p.36, 234).

Foot pedals

Damper Pedal

A separately sold Korg switch-type damper pedal such as the DS-1H can be connected to this instrument. If a DS-1H is connected, it will function as a half-damper pedal. The half-damper function cannot be controlled by other pedals.

Assignable Foot Switch

A separately sold on/off switch such as the Korg PS-1 foot switch can be connected to this instrument, allowing you to turn an assigned function on/off by stepping on the foot switch.

The function of the foot switch is assigned in GLOBAL 6.1: Controller "Foot Switch Assign" (☞p.101).

Assignable Foot Pedal

A separately sold Korg expression pedal such as the EXP-2 orXVP-10 can be connected to the ASSIGNABLE PEDAL jack, and used to apply an effect.

The function of the foot pedal is assigned in GLOBAL 6.1: Controller "Foot Pedal Assign" (☞p.101).

KARMA Realtime Controls

By operating the KARMA Realtime Controls in realtime, you can control the phrase or pattern in a variety of ways. (☞p.27)

Performing with the KARMA function

The **KARMA function** automatically generates a wide range of phrases or patterns such as guitar and keyboard backing riffs, bass phrases, and drum patterns in response to the note data played on the keyboard or received via MIDI IN. By operating the KARMA Realtime Controls knobs and switches, you can freely modify the phrases and patterns.
This instrument provides preloaded programs and combinations that cover a wide range of instruments, playing techniques, and musical styles, allowing you to take full advantage of the KARMA function. Appropriate settings for the KARMA Realtime Controls knobs, switches, and keys are already specified for these programs and combinations.

Using the KARMA function to perform in Program mode

In Program mode you can use one KARMA module to play a phrase or pattern appropriate for the program sound.

Selecting a program and turning the KARMA function on/off

① **Press the [PROG] key to enter Program mode, and select a program.** ☞p.20 “Selecting a program”

As you select various programs, you will notice that the KARMA Realtime Controls [ON/OFF] key LED will be lit for some programs.
When you play the keyboard or CHORD TRIGGER [1]–[4] keys, the KARMA function will begin playing.
Even for other programs, you can press the [ON/OFF] key (making the LED light) to turn on the KARMA function.

Adjusting the tempo

① **Turn the [TEMPO] knob to adjust the tempo.**

The value of “♩=” in the upper right of the LCD screen will change. You can adjust this in the range of **40–240**. The LED located above the [TEMPO] knob will blink at quarter note (♩) intervals.

You can also set this by using the cursor keys [▲], [◄], [▼], [►] to select “♩=,” using the numeric keys [0]–[9] to input the tempo, and pressing the [ENTER] key to make the setting. Alternatively, you can use the VALUE controller. The LED will blink in synchronization with the tempo you specify.

note The setting of the knob will be saved when you write the program.

If “MIDI Clock” (GLOBAL 2.1: MIDI) is set to **External**, this will be displayed as “♩=**EXT**,” and the tempo will be synchronized with an external MIDI device. In this case, it will not be possible to adjust the tempo from this instrument.

Checking the note-on/off status and Key Zone

Note data and detected chords from the keyboard or [CHORD TRIGGER] keys, from the MIDI IN connector, or generated by the KARMA module can be viewed in realtime.
The settings of the module’s key zone is also displayed, as a solid line. Input notes within the key zone will be used to trigger and control the phrase or pattern. Notes outside the zone may be optionally used to control other KARMA functions. (☞p.81 “Specifying the keyboard range for which the KARMA function wil operate”)

① **In PROG 1.1: Play, press the [F6] key to select the KARMA Note Activity page.**

When you play the keyboard or press a CHORD TRIGGER [1]–[4] key, “Chord[A]” will indicate the name of the chord detected by the KARMA module.
“Note Activity Display” will display the notes generated by the KARMA module.
The key zone settings of the KARMA module are displayed as a solid line. (☞p.81 “Specifying the keyboard range for which the KARMA function wil operate”)

Operating the KARMA Realtime Controls

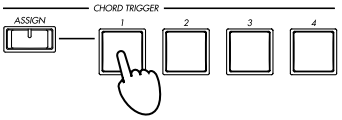
note The state of the KARMA Realtime Controls knobs and switches is saved when you write the program.

Turning the KARMA function on/off: [ON/OFF] key

Each time you press the [ON/OFF] key, the KARMA function will turn on/off. When **on**, the key LED will light. When you play the keyboard or press a CHORD TRIGGER [1]–[4] key, the phrase or pattern generated by the GE (Generated Effect) selected for the KARMA module will begin playing.

Using the CHORD TRIGGER keys: CHORD TRIGGER [1]–[4]

When you press a CHORD TRIGGER key [1]–[4], the specified chord (up to eight notes and one velocity setting can be assigned) will sound, and the KARMA function will operate. Appropriate chords are pre-specified for the preloaded programs. You can use this in conjunction with your own keyboard playing.



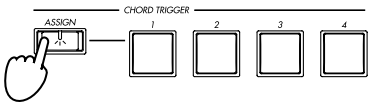
Assigning chords to the CHORD TRIGGER keys: CHORD TRIGGER [ASSIGN] key

Here's how you can assign chords to the CHORD TRIGGER [1]–[4] keys. Up to eight notes and one velocity can be specified for each key. Settings can be made using one of two methods.

Method 1:

① **Press the CHORD TRIGGER [ASSIGN] key.**

The [ASSIGN] key LED will light.

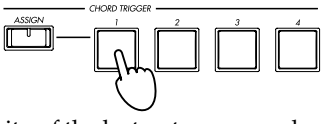


② **Play the keyboard of this instrument.**

note To assign notes that are difficult to play simultaneously, hold down the first note and then add additional notes one by one with the other hand.

③ **Press one of the CHORD TRIGGER [1]–[4] keys. The note/chord you played in step ② will be registered to that key.**

The [ASSIGN] key LED will go dark.



The velocity of the last note-on you played in step ② will be assigned as the velocity value.

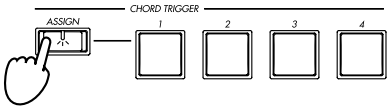
④ **When you press the same CHORD TRIGGER [1]–[4] key, the note/chord you specified will play.**

Method 2:

① **Play the keyboard of this instrument.**

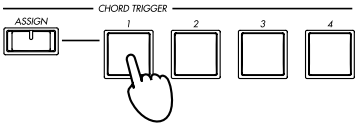
② **Press the CHORD TRIGGER [ASSIGN] key.**

The [ASSIGN] key LED will light.



③ **Press one of the CHORD TRIGGER [1]–[4] keys. The note/chord you played in step ① will be registered to that key.**

The [ASSIGN] key LED will go dark.



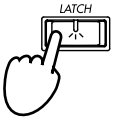
The velocity of the last note-on you played in step ① will be assigned as the velocity value.

④ **When you press the same CHORD TRIGGER [1]–[4] key, the note/chord you specified will play.**

Making the playback continue after you release the keyboard or CHORD TRIGGER key: [LATCH] key

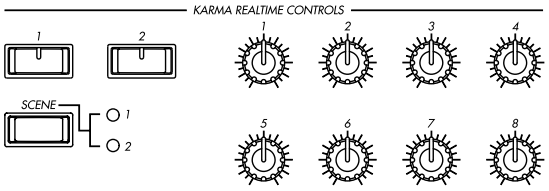
This key lets you specify whether the playback will continue after you take your hand off the keyboard or the CHORD TRIGGER [1]–[4] key.

LED lit: Latch is on. Playback will continue even after you take your hand off the keyboard or the CHORD TRIGGER [1]–[4] key.
LED dark: Latch is off. Playback will stop when you take your hand off the keyboard or the CHORD TRIGGER [1]–[4] key.



Modifying the phrase of pattern of the KARMA module: knobs [1]–[8], switches [1]/[2], [SCENE] key

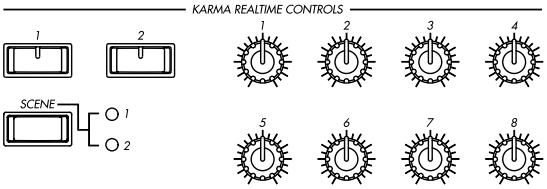
You can operate the KARMA Realtime Controls knobs [1]–[8], switches [1]/[2], and the [SCENE] key to modify the phrase or pattern in various ways.



① **In PROG 1.1: Play, press the [F5] key to access the KARMA RTC page.**

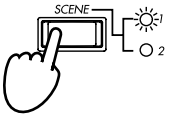
The knob and switch settings for the program will be displayed as graphics and names.
Names appropriate for the functions of the KARMA Realtime Controls knobs and switches are already specified for the preloaded programs.

② **When you operate the KARMA Realtime Controls knobs [1]–[8] and switches [1]/[2], the pattern or phrase will change as indicated by the displayed function names.**

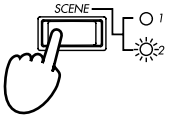


③ **When you press the [SCENE] key, the 1 or 2 LED will light alternately each time the key is pressed.**

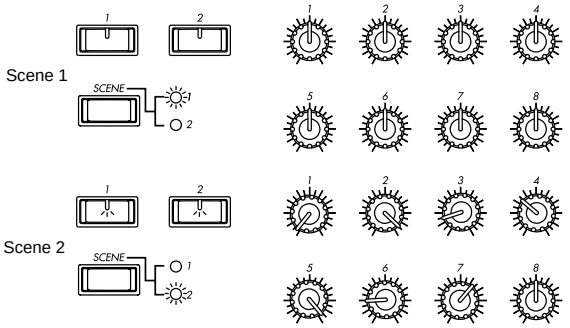
"1" LED lit: Scene 1 is selected.



"2" LED lit: Scene 2 is selected.



The [SCENE] key lets you save two sets of settings for knobs [1]–[8] and switches [1]/[2]. By pressing the [SCENE] key, you can immediately select a completely different state of settings for knobs [1]–[8] and switches [1]/[2].

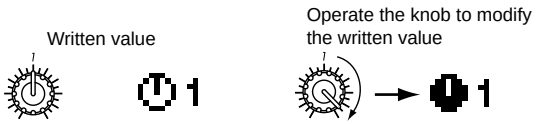


The illustration above only shows the concept; the physical locations of the knobs will not change when you switch scenes.

When you operate knobs [1]–[8] or switches [1]/[2] when each scene is selected, the settings will be temporarily saved in the corresponding **scene**. When you write the program, both **scene 1** and **scene 2** will be saved.

Graphic display of knobs and switches

When you operate the knobs or switches to modify the values written in a program, the graphic display of the knob or switch in the LCD screen will be highlighted (displayed in black).
When a knob or switch is restored to the value that is written in the program, the graphic display of that knob or switch will also revert to the normal display. This is convenient when you wish to restore a knob or switch to its original position after adjusting it.

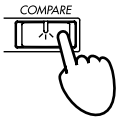


If you wish to restore the state of the knobs and switches

As an alternative to operating the knobs or switches while you watch the graphic display, you can use the following methods.

Restoring the entire program

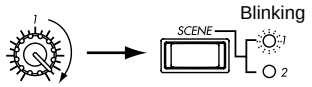
○ **Press the [COMPARE] key. The settings of the entire program will return to the state in which they were written.** (☞p.15 "Basic operation""[COMPARE] key", PG p.6)



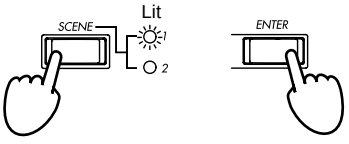
When you press the [COMPARE] key once again, the program will return to the modified state.

Restoring only the SCENE settings

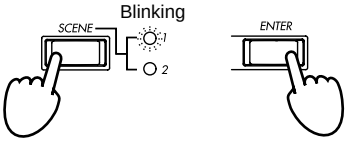
① **When you operate the knobs or switches to modify the values that are written in the program, the LED of the currently selected scene will blink.**



② **If you now hold down the [ENTER] key and press the [SCENE] key, all knobs and switches will automatically return to the values that were written. (The LED will stop blinking.)**



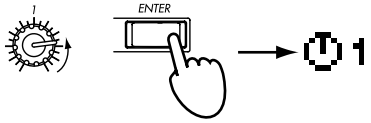
③ **Once again, hold down the [ENTER] key and press the [SCENE] key, and all knobs and switches will automatically return to the state of step ①. (The LED will blink.)**



Restoring only the knob or switch settings

① **When you operate the knobs or switches to modify the values that are written in the program, the graphic display for knobs or switches you modified will be highlighted (displayed in inverse video).**

② **If you now hold down the [ENTER] key and operate a knob or switch that was modified, it will automatically return to the written condition.**



Selecting a GE (Generated Effect)

When the KARMA function is on, the phrases or patterns that are produced are generated by the GE selected for the KARMA module. This instrument contains over a thousand GEs, covering a wide range of instruments, playing techniques, and musical styles. (☞p.78 "About the KARMA function"– "The structure of the KARMA function")
A GE suitable for the sound of the program is preselected for each of the preloaded programs. By switching to a different GE, you can radically modify the phrase or pattern.

○ **In PROG 1.1: Prog, press the [F4] key to access the KARMA page.**

PROG 1.1:Play KARMA:Program Select
A 000:NoisyStabber -Y ♩=120
KARMA GE Setup
GE:[User] 1191: Melodic Repeat!
Init K.RTC (KARMA Realtime Controls - Use GE's values)
Program P.Edit KARMA K.RTC Note UTILITY

① **Use the [▲], [◄], [▼], [►] cursor keys to choose "GE Select."**

② **Use the [VALUE] slide, [VALUE] dial, or VALUE [▲], [▼] keys to select a GE.**

You can also use the numeric keys [0]–[9] to enter the pattern number, and press the [ENTER] key to make your selection.
You can use the utility menu command "Select by Category" to select GE's by category. (☞PG p.2, p.5 "Select by Category," VNL)

"Init. K.RTC (Init. KARMA Realtime Controls)"
This setting specifies whether the settings of the KARMA Realtime Controls knobs and switches will be initialized when you select a GE. If this is **On (checked)**, you will hear the phrase or pattern generated by the GE in its original state. Normally you will leave this **On** when selecting a GE. (☞p.80 "About the KARMA function"– "KARMA function settings in Program mode" PG p.5 PROG 1.1-3a)

KARMA module parameter settings

For details on KARMA module parameter settings, refer to p.80 "About the KARMA function – KARMA function settings in Program mode."

Using the KARMA function to perform in Combination mode

In Combination mode, up to four KARMA modules can be operating simultaneously. For example, you can make settings that combine four KARMA modules with eight timbre programs to play separate phrases or patterns on programs such as drums, bass, guitar, and strings.

Selecting a combination and turning the KARMA function on/off

① **Press the [COMBI] key to enter Combination mode, and select a combination.** (☞p.22"Selecting a combination")

COMBI 1.1:Play Combination:Combi Select
Bank A Category 11:LeadSplits ♩=106
000: =Voice Of KARMA=
SW1 SW1 Mod.CC#80 Knob1B KMod1 Knob3B KMod3
SW2 SW2 Mod.CC#81 Knob2B KMod2 Knob4B KMod4
Combi Prog Mix KARMA K.RTC Note UTILITY

As you select various combinations, you will notice that the KARMA Realtime Controls [ON/OFF] key LED will be lit for some combinations.
When you play the keyboard or CHORD TRIGGER [1]–[4] keys, the KARMA function will begin playing. Even for other combinations, you can press the [ON/OFF] key (making the LED light) to turn on the KARMA function.

Adjusting the tempo

You can adjust the tempo by turning the [TEMPO] knob. When you adjust the tempo, the playback tempo for all operating KARMA modules will change. (☞p.26)

It is not possible to set the tempo of each KARMA module separately.

Checking the note-on/off status and Key Zone

Note data and detected chords from the keyboard or [CHORD TRIGGER] keys, from the MIDI IN connector, or generated by KARMA modules [A], [B], [C], and [D] can be viewed in realtime.
The settings of the module's key zone is also displayed,

as a solid line. Input notes within the key zone will be used to trigger and control the phrase or pattern. Notes outside the zone may be optionally used to control other KARMA functions.

○ **In COMBI 1.1: Play, press the [F6] key to select the KARMA Note Activity page.**

When you play the keyboard or press a CHORD TRIGGER [1]–[4] key, "[A], [B], [C], [D]" will indicate the name of the chord detected by each KARMA module. (Chord detection may differ depending on the setting of the KARMA module.) The "Note Activity Display" will indicate the note-on/off status generated by each KARMA module.
The key zone settings of the four KARMA modules are displayed as a solid line.

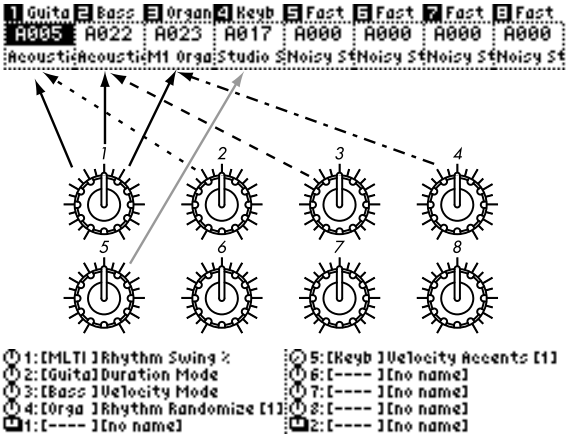
Operating the KARMA Realtime Controls

You can use the KARMA Realtime Controls to control the KARMA function in the same way as for a program.

note The state of the KARMA Realtime Controls knobs and switches is saved when you write the combination.

Name display for knobs [1]–[8] and switches [1]/[2]

As for a program, the knobs and switches specified for the combination are displayed as graphics and by name.
In a combination, the square brackets [ ] show the category of the program used by the timbre controlled by the KARMA Realtime Controls knobs and switches. If multiple timbres are being controlled simultaneously, this will indicate **[MLTI]**.
From the KARMA Realtime Controls knobs and switches, you can determine which timbre's phrase is being controlled.



Settings for KARMA module operation ("Run" and "Solo" settings)

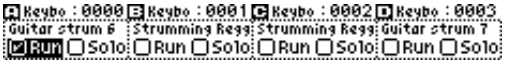
In Combination mode, up to four KARMA modules can operate simultaneously.
When the **KARMA function** is **off**, all KARMA modules will be stopped. When the **KARMA function** is **on**, the KARMA module(s) that you specify here will operate.

① **In COMBI 1.1: Play, press the [F4] key to select the KARMA page.**

② **Use "Run" and "Solo" to specify the module(s) that will operate when KARMA is on. (☞PG p.47 COMBI 1.1-4b)**

The KARMA modules for which **"Run"** is **On (checked)** will operate.
If you turn **"Solo" On (checked)** for a KARMA module, only that module will operate. This is useful when you are selecting a GE or when you wish to check the phrase that is played.
A module for which **"Solo"** is **On (checked)** will operate even if **"Run"** is **Off (unchecked)**.

The "Solo" setting will be cleared when you change combinations. It will not be memorized even if you write the combination.


Keybo : 0000 Keybo : 0001 Keybo : 0002 Keybo : 0003
Guitar strum 6 Strumming Regg Strumming Regg Guitar strum 7
Run Solo Run Solo Run Solo Run Solo

KARMA module [A] will operate

Keybo : 0000 Keybo : 0001 Keybo : 0002 Keybo : 0003
Guitar strum 6 Strumming Regg Strumming Regg Guitar strum 7
Run Solo Run Solo Run Solo Run Solo

KARMA module [B] will operate

Keybo : 0000 Keybo : 0001 Keybo : 0002 Keybo : 0003
Guitar strum 6 Strumming Regg Strumming Regg Guitar strum 7
Run Solo Run Solo Run Solo Run Solo

KARMA modules [A] and [B] will operate

KARMA module MIDI I/O channel settings

The MIDI input/output channel settings for each KARMA module and the MIDI channel setting for each timbre will determine the routing by which the KARMA modules will play the timbres.
When the MIDI output channel of a KARMA module matches the MIDI channel of a timbre, the phrase or pattern produced by that KARMA module when it operates will sound that timbre. For details on these settings, refer to p.83 "KARMA function settings – KARMA function settings in Combination mode," PG p.58 COMBI 6.1-2a.

Selecting a GE (Generated Effect)

Similar to program mode, you can use "GE Select" to select the GE that will be used for each module. (☞p.83 "About the KARMA function" – "KARMA function settings in Combination mode")

"Init. K.RTC (Init. KARMA Realtime Controls)"

This setting specifies whether the settings of the KARMA Realtime Controls knobs and switches will be initialized when you select a GE. If this is **On (checked)**, you will hear the phrase or pattern generated by the GE in its original state, unaffected by the current positions of the knobs and switches. Normally you will leave this On when selecting a GE. (☞p.83 "About the KARMA function" – "KARMA function settings in Combination mode" PG p.5 PROG 1.1-3a)

KARMA module parameter settings

For details on KARMA module parameter settings, refer to ☞p.83 "About the KARMA function" – "KARMA function settings in Combination mode".

Playing with the RPPR (Realtime Pattern Play/Recording) function

This instrument's Sequencer mode provides an **RPPR (Realtime Pattern Play/Recording) function**.
Using the **RPPR function**, each note of the keyboard can be assigned to a preset pattern or user pattern and a track that will play the assigned pattern. You can then playback the assigned pattern in realtime (and record it, if desired) simply by playing a note. (Preset patterns suitable for playing by the drum track are already provided in internal memory.)

In this section, we will explain how to load an RPPR demo song, and play it.

① **From the included floppy disk "KMFD-00P," load "PRELOAD.SNG."**

Load "PRELOAD.SNG" as described in "Loading a demo song in Disk mode" (☞p.18).

② **Press the [SEQ] key (LED lit) to enter Sequencer mode, and access the SEQ 1.1: Play/REC, Play/REC page.**

③ **In "Song Select," select 006:FEVER.**

Select the song as described in "Selecting and playing a demo song in Sequencer mode" (☞p.19).

④ **Make sure that the RPPR check box is checked.**

Checked: The specified RPPR (set in SEQ 5.1:PPPR, RPPR Setup) will function.
Unchecked: RPPR will not function. Operation will be as in normal Sequencer mode.

⑤ **Press a key.**

The pattern assigned to that key will playback.
In some cases, the pattern will continue playing after you release your hand from the keyboard. You can stop playback either by pressing that key once again, or by pressing a key in the area of C2 or below.

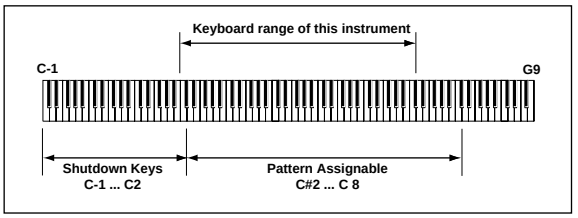
Shutdown Keys:

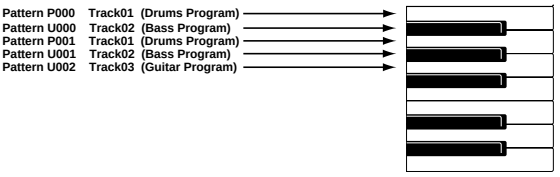
When you play a key in the range of C–1 – C2, the currently-playing pattern will stop.

Pattern Assignable:

A pattern and track can be assigned to each of the 72 keys in the range of C#2–C8. If you do not assign a key, it can be used to play as usual.

As in the example shown in the following diagram, you can make one key play a drums pattern, another key a bass phrase, and yet another key play guitar chords, all by specifying a different pattern and track for each key.




Pattern P000 Track01 (Drums Program)
Pattern U000 Track02 (Bass Program)
Pattern P001 Track01 (Drums Program)
Pattern U001 Track02 (Bass Program)
Pattern U002 Track03 (Guitar Program)

Simple program editing

Program sounds can be modified and created in PROG 2.1: Ed-Basic–7.3: Ed-MasterFx. However, you can also use the "Performance Editor" to perform simple editing in PROG 1.1: Play Perform. Edit page as well.
You can also use REALTIME CONTROLS [1]–[4] knobs to modify the sound.

Program editing refers to the process of modifying the parameters that make up a program, in order to modify the sound or change the controller, effect or KARMA settings etc.

The sound that you edit using the Performance Editor or using REALTIME CONTROLS knobs [1]–[4] in A mode (or B mode if CC#70–79 are assigned) can be saved by writing the program.

(However, the sound you edit using the Realtime Controls [1]–[4] knobs will not be saved by Program Write if the KARMA [ON/OFF] key is on. Turn off the KARMA [ON/OFF] key before you perform Program Write.

If you wish to keep the edited sound, you must write the program before selecting another program or turning off the power (☞p.38).

Performance Edit

① **Press the [PROG] key (LED lit) to enter Program mode.**

② **Press the [F2] ("P.Edit") key.**

The Perform. Edit page will appear.

PROG 1.1:Play Perform. Edit:Octave
A 000:NoisyStabber -Y
♩=128
Performance Editor
+00 +00 +00 +00 +00 +00 +00 +00
Octave Stretch OSC Bal Level Attack Decay IFX Bal MFX Bal
Program P.Edit KARMA K.RTC Note UTILITY

③ **Use the Performance Editor to adjust the sound.**

Use the Cursor keys [▲], [◄], [▼], [►] to select the desired performance editor slider, and use the [VALUE] controller to adjust the setting.
By using the eight sliders of the Performance Editor, you can make overall adjustments to the sound.
When you move a slider, multiple program parameters are adjusted simultaneously.

Depending on the settings of the program parameters, the result may not be noticeable.

Octave

Indicates the octave setting.

Pitch Stretch

Simultaneously adjusts the transpose and tune settings of the oscillator. This allows you to produce a variety of tonal changes without losing the character of the original sound.

This Performance Edit function cannot be used on bank F.

OSC Balance

Adjusts the level balance between oscillators 1 and 2.

For programs whose "**Mode** (Oscillator Mode)" (PROG 2.1: Ed-Basic, Prog Basic page) setting is **Single**, oscillator 2 will not sound. Only the level of oscillator 1 will change. For a **Drums** program, this performance editor will have no effect.

Amp Level

Indicates the amp level. This will adjust the volume of the entire program.

Attack Time

Indicates the attack time of the filter EG and amp EG. This will adjust the speed of the attack from note-on.

In order to maximize the effect of the Attack Time adjustment, the amp EG Start Level, Attack Level, Start Level Modulation, and Attack Time Modulation parameters are also adjusted.

Decay Time

Indicates the decay time and slope time of the filter EG and amp EG.

IFX Balance

This simultaneously adjusts the "**W/D** (Wet/Dry)" balance of all insert effects 1–5.

MFX Balance

This simultaneously adjusts the Return 1 and 2 parameters of the master effects.

Realtime controls

These can be used to edit parameters such as the filter cutoff frequency, resonance, the amp and filter EG, volume, portamento time, pan, pitch LFO, and master effect send level etc. (☞p.24).

Simple combination editing

A combination is a set of multiple (up to eight) programs, and allows you to create complex sounds that could not be produced by a single program.

Combination editing refers to the process of modifying the sound of a combination by changing the program selected for each timbre or adjusting the keyboard range and velocity range, or by modifying the controller, effect, and KARMA function settings.

You can edit a combination in COMBI 2.1: Ed-Prog/Mix–7.3: Ed-MasterFX, but can also make settings for "Program Select, "Pan," and "Volume" in COMBI 1.1 Play as well.

The edits you make will be lost if you select another combination or turn off the power. If you wish to keep your edited data, you must write it into memory. (☞p.38)

An example of editing

As an example, here's how to do some simple editing on combination **Bank A064: ModernPiano**.

① **Press the [COMBI] key (LED lit) to enter Combination mode.**

② **Select Bank A064: ModernPiano.**

COMBI 1.1:Play Combination:Combi Select
Bank A Category 00:Keyboard ♩=120
064: ModernPiano
SW1 Octave Down Knob1B Attack Knob3B KMod3
SW2 JS-Y&R Lock:N/A Knob2B Decay Knob4B KMod4
Combi Prog Mix KARMA K.RTC Note UTILITY

If the KARMA [ON/OFF] key is on, turn it off.
This combination **layers** (simultaneously sounds) the programs of timbre 1 and timbre 2. Timbre 1 sounds **B001: Attack Piano**, a piano with a crisp attack. Timbre 2 sounds **B081: Vintage EP**, a classic electric piano. These two programs are layered to produce a piano-type sound that you may have heard in various contexts.

note A **timbre** consists a of program together with multiple parameters that control that program. A combination can use up to eight of these timbres.

Selecting the program for a timbre

③ **Press the Prog page.**

Press the [F2] ("Prog") key. Now you can specify the programs for timbres 1–8.

④ **Now let's change the program of timbre 2 to a different program.**

Use the cursor keys [▲], [◄], [▼], [►] to select "Program Select" for timbre 2 (it will be highlighted).

"Program Select"
COMBI 1.1:Play Prog:Program Select
A 064:ModernPiano ♩=120
B001 B081 B031 B031 B031 A000 A000
Attack Vintage Thin Bel Thin Bel Thin Bel Thin Bel Noisy St Noisy St
T02: B081:Vintage EP Status:INT Ch:Gch
Combi Prog Mix KARMA K.RTC Note UTILITY
Timbre 1
Thimbre 2

note You can directly select the program for a timbre by holding down the [TIMBRE/TRACK] key and pressing the nearest [F1]–[F8] key. Similarly in steps ⑥ and ⑦, you can select pan or volume in the same way.

For this example, select **A003: Legato Strings**. This is a layered combination with piano and rich strings. Then consecutively press the [A] key, the [3] key, and the [ENTER] key.

Alternatively, the program for a timbre can be selected by category.
Choose "**Program Select**," press the [F8] ("UTILITY") to access the utility menu, and press the [F7] key to choose "**Select by Category**." Press the [F8] ("OK") key.
The Select Program by Category dialog box will appear.

Select Program by Category (Timbre 2)
0017: B081 :Vintage EP
0018: B097 :Sticky Rez Clav
0019: B104 :L/R Piano(Knob1)
0020: B113 :Hybrid Digi EP
Index:0017 Cat:00:Keyboard Cancel OK

Choose "Cat" and use the VALUE [▲], [▼] keys to select the category. For example if you wish to select strings programs instead of the "**00: Keyboard**" category shown in the screen above, press the VALUE [▲] key three times to select "**03: Strings**."
You can use the cursor keys [▲], [▼] to successively select string-type programs.
When you are happy with the selected program, press the [F8] ("OK") key to finalize your selection.

Listening to the program sound of just one timbre

○ Press the [F8] ("UTILITY") key to access the utility menu, and press the [F7] key to choose **"Solo Selected Timbre."** Press the [F8] ("OK") key.

Now you will hear only the program sound of the currently selected timbre. The lower part of the LCD screen will indicate [**Solo**].

To cancel this setting, choose "**Solo Selected Timbre**" once again and press the [F8] ("OK") key.

Adjusting the stereo location of the sound

⑤ **Select the Mixer page.**

Press the [F3] ("Mix") key. Here you can adjust the pan and volume for timbres 1–8.

⑥ **Adjust the stereo location in "Pan" of timbre 2.**

Use the cursor key [▲], [◄], [▼], [►] to choose "Pan" (highlighted) for timbre 2.

Use the controller to change the value.

A setting of **C064** is center, **L001** is far left, and **R127** is far right. With a setting of **RND**, the stereo location will change randomly between left and right each time a note is played.

Adjusting the volume

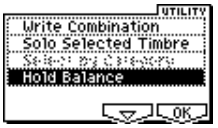
⑦ **Adjust the "Volume" of timbre 2.**

Use the cursor key [▲], [◄], [▼], [►] to choose "**Volume**" (highlighted) for timbre 2.

Use the [VALUE] controller to change the value.

Adjusting the volume while preserving the volume balance between timbres

○ Press the [F8] ("UTILITY") key to access the utility menu, and press the [F7] key to choose "**Hold Balance**." Press the [F8] ("OK") key.



The upper right of the LCD screen will indicate "Hold Bal."

When you change the "**Volume**" value of any timbre, the volume of all timbres will also change to preserve the volume balance at the time you checked the Hold Balance setting.
To cancel this setting, choose "**Hold Balance**" once again and press the [F8] ("OK") key.

Basic functions

Saving data

Types of data that can be saved

On this instrument, there are three ways to save data: **writing to internal memory**, **saving on floppy disc**, and **MIDI data dump**.

Writing to internal memory

The following data that you edit can be written into internal memory.

- **Program**
  Programs 0–127 in banks A–F
  (However, bank F is available only if the separately sold EXB-MOSS option is installed.)
- **Combination**
  Combinations 0–127 in banks A–F
- **Global settings** (Page 1.1-4.1, 6.1)
- **User drum kits** 00 (A/B)–63 (User)
- **User template songs** U00-U15
  Song settings such as the song name and tempo, track settings (☞p.59), KARMA function settings, and effect settings can be saved (Write) to internal memory. However, the musical data for song tracks and patterns are not saved to internal memory. Furthermore, settings that govern how the musical data is played back such as "Meter," "Metronome," "Play/Mute," "Track Play Loop (including Start/End Measure)," and RPPR settings will not be saved either. Use the Sequencer mode or Song Play mode utility menu command "Save Template Song" to write this data (☞PG p.73).

Data that you edit in Sequencer or Song Play cannot be saved in internal memory by the Write operation.

Saving to floppy disk

The following data can be saved on floppy disk.

For details on the file format (PG☞p.149).

- **Programs, combinations, global settings and user drum kits**
- **Songs, cue lists, and patterns**
- **Standard MIDI Files (SMF)**
  Sequencer mode songs can be saved as SMF data.
- **System exclusive data**
  System exclusive data received by this instrument from an external MIDI device (This instrument can function as a data filer.)
- **Jukebox lists**
  Jukebox lists are saved in Song Play mode (☞p.76).

MIDI data dump

The following types of data can be transmitted as a MIDI data dump and saved on an external data filer or other device.

- **Internal memory programs, combinations, user drum kits, and global settings**
- **Songs, cue lists, patterns**

About preloaded data and preset data

Preloaded data is the data that is loaded into memory at the factory. This data can be rewritten, and is written into the various locations listed in the preceding section "Writing to internal memory." This data is also stored on the included floppy disk.

- **Program** banks A, B, E: 000–127
- **Combination** banks A, B, E: 000–127
- **User drum kits** 00 (A/B)–15 (A/B)

Preset data is data that cannot be rewritten by the Write operation. This includes the following data.

- **Program** banks G, g(1)–g(9), g(d) 001–128
- **Preset drum kits** 64 (GM)–72 (GM)
- **Preset template songs** P00–P15
- **Preset patterns** P000–P149

Writing to internal memory

Memory protect

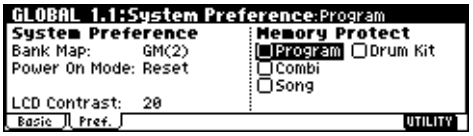
To prevent programs, combinations, songs and user drum kits from being overwritten accidentally, the this instrument provides a Memory Protect setting that prohibits writing to memory.

Before you save edited data or load data from floppy disk, use the following procedure to turn off memory protect (uncheck the appropriate check box).

Memory protect must also be turned off before the above-listed data or a song in Sequencer mode can be loaded from floppy disk or via MIDI data dump, and before recording.

① **Press the [GLOBAL] key to enter Global mode (LED lit), and press the [EXIT] key to select 1.1: System.**

② **Press the [F2] ("Pref.") key to access the 1.1: System, Preferences page.**



③ **Uncheck the appropriate "Memory Protect" check box for the data that you wish to write into internal memory.**

Writing a program or combination

The programs or combinations that you create by using the Performance Editor or by editing parameters in the various edit (Ed) pages can be saved in the internal memory of the this instrument. This action is referred to as "writing a program" or "writing a combination." If you want your edited data to be preserved after the power is turned off, you must write it.

There are two ways to write a program or combination.

Before you write data into memory, you must turn off the memory protect setting in Global mode. (☞"Memory protect")

Using a utility menu command to write

① **Select the utility menu command "Write Program" or "Write Combination."**

The Write Program/Write Combination dialog box will appear.

note You can also access the same dialog box by holding down the [ENTER] key and pressing the [0] key.

The screen shown is for Program mode

② **In "Category," specify the category of the program/combination.**

If the category you specify here is for a program, you can use it when selecting by category in the Cat. Hold function or the "Select by Category" utility in menu command PROG 1.1: Play, "Program Select" in the COMBI 1.1: Play, Prog page, the COMBI 2.1: Ed-Prog/Mix.Prog page, or the SEQ 1.1: Play, Program or S.PLAY 1.1 play, Program page utility "Select by Category."

In the case of a Combination, the category you specify here can be selected when you use the "Select by Category" utility or the Cat. Hold function in COMBI 1.1: Play: ("Combi Select").

③ **Use "To" to specify the bank and number of the writing destination program/combination.**

Use the [VALUE] controller to specify the destination.

④ **If you wish to change the name of the program/combination, press the [F5] ("Name") key.**

The text dialog box will appear. Input the name of the program/combination. ☞"Assigning a name (Rename)"

After you have input the name, press the [F8] ("OK") key to return to the Write Program/Write Combination dialog box.

⑤ **To execute the Write operation, press the [F8] ("OK") key. To cancel without executing press the [F7] ("Cancel") key.**

When you press the [F8] ("OK") key, the display will ask "Are you sure?" When you press the [F8] ("OK") key once again, the data will be written.

Using the [REC/WRITE] key to write

This method can only be used to write to the selected program/combination number.

① **Press the [REC/WRITE] key.**

The following dialog box will appear.

The screen shown is for Program mode

② **To write the data, press the [F8] ("OK") key. To cancel without writing, press the [F7] ("Cancel") key.**

Assigning a name (Rename)

You can modify the name of an edited program, combination, song, drum kit.

You can also modify the category names for programs and combinations.

These renaming operations can be performed in the following pages.

Programs	PROG 1.1...7.3 Utility: Write Program
Combinations	COMBI 1.1...7.3 Utility: Write Combination
Song	SEQ 1.1...4.4, 6.1 Utility: Rename Song
Cue list	SEQ 2.1 Utility: Rename Cue List
Tracks	SEQ 5.1, 5.2 Utility: Rename Track
Patterns	SEQ 5.1 Utility: Rename Pattern
Jukebox	S.PLAY 4.2 Utility: Save Jukebox List
Drum kits	GLOBAL 5.1 Utility: Rename Drum Kit
Program categories	GLOBAL 4.1: TEXT
Combination categories	GLOBAL 4.1: TEXT
File	DISK, Save Utility: Save All...Save Exclusive

① **Open the text dialog box.**

Refer to the above table for the relevant page.
In the utility commands, press "**Name**" (the [F5] key) in the dialog box that appears.
In GLOBAL 4.1, select "**TEXT**" (press the [F5] key).

For example if you wish to input the text shown in the screen shown above, you would use the following procedure.

② **Press the [F1] ("Clear") key.**

All text of the text box will be erased.

③ **Input "A"**

Use the [VALUE] dial, the [VALUE] slider, the [▲], [▼] keys, or cursor keys [▲], [◄], [▼], [►] to select "A."
Press the [ENTER] key or [F6] ("▶") key. The cursor will move.

④ **Input "."**

Use the [VALUE] dial, the [VALUE] slider, the [INC], [DEC] keys, or cursor keys [▲], [◄], [▼], [►] to select "."
Press the [ENTER] key or [F6] ("▶") key. The cursor will move.

Repeat this step to input all the characters.

⑤ **Press the [F8] ("OK") key.**

If you selected "Name" in the dialog box of step ① to access the text dialog box, you will return to the previous dialog box. Press the [F8] ("OK") key in that dialog box to execute the Rename operation.
If you selected "TEXT" in step ① to access the text dialog box, the Rename operation will be executed.

The function buttons will have the following functions.
Clear: Erase all text.
Del (Delete): Delete the character at the cursor location.
Ins (Insert): Insert a space at the cursor location.
Cap.⇕ (Capital): Switch between uppercase and lowercase letters.
◀: Move the cursor to the left.
▶: Move the cursor to the right.

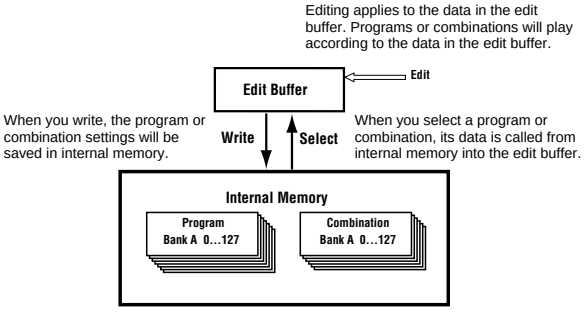
The following input operations can also be performed.
"0"–"9," "–," and "." can be input using the numeric keys. When you input these, the cursor will advance automatically.

To input successive spaces (blanks), press the [ENTER] key at the last-selected text.

About the Edit Buffer

When you select a program or combination in PROG 1.1: Play and COMBI 1.1: Play, the program or combination data is called into the "edit buffer."
When you modify the parameters in 1.1: Play or in the edit pages 2.1–7.3 of Program mode or Combination mode, the changes you make will affect the data in the edit buffer.
If you wish to save this modified data into internal memory, you must perform the Write operation.
When you perform the Write operation, the data in the edit buffer is written to the specified program number or combination number of the specified bank.
If you select another program or combination without writing, the data of the newly selected program or combination will be called into the edit buffer, and your changes will be lost.

When you press the [COMPARE] key in the edit pages 2.1–7.3 of Program mode or Combination mode, the data from memory (i.e., the contents that were written into memory) will be temporarily called into the edit buffer. This allows you to compare the settings you are editing with the original un-edited settings.


Editing applies to the data in the edit buffer. Programs or combinations will play according to the data in the edit buffer.
Edit Buffer
Edit
When you write, the program or combination settings will be saved in internal memory.
Write
Select
When you select a program or combination, its data is called from internal memory into the edit buffer.
Internal Memory
Program Bank A 0...127
Combination Bank A 0...127

Writing global settings and user drum kits

The settings you edit in Global mode can be written into internal memory. This is done using the operations **Write Global Setting** and **Write User Drum Kits**. If you wish to use these settings after turning the power off, be sure to write the data.

There are two ways to write global settings and user drum kits.

Before you write a user drum kit, the Global mode memory protect setting must be turned off (☞"Memory protect").

Using a utility menu command to write

① **To write global settings (the various settings in GLOBAL 1.1–4.1, 6.1), select the utility menu command "Write Global Setting" in GLOBAL 1.1–4.1, 6.1, and press the [F8] ("OK") key.**

The Write Global Setting dialog box will appear.

To write user drum kits, select the utility menu command "Write Drum Kits" in GLOBAL 5.1, and press the [F8] ("OK") key.

The Write Drum Kits dialog box will appear.

note The same dialog box will also appear if, in each of the above pages, you hold down the [ENTER] key and press the [0] key.

The example shown is for Write Drum kits

② **To execute the Write operation, press the [F8] ("OK") key. To cancel, press the [F7] ("Cancel") key.**

When you press the [F8] ("OK") key, the display will ask "Are you sure?" Press the [F8] ("OK") key once again to write the data.

Using the [REC/WRITE] key to write

① **In the following pages, press the [REC/WRITE] key. A dialog box will appear.**

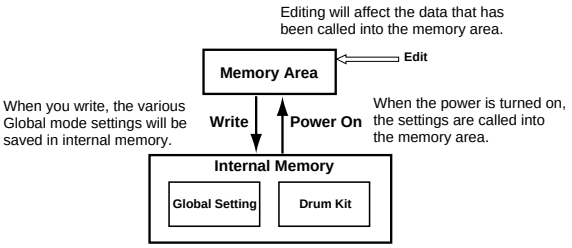
Global settings:	**GLOBAL 1.1–4.1, 6.1**
User drum kits:	**GLOBAL 5.1**

The example shown is for Update Drum kits

② **To execute the Write operation, press the [F8] ("OK") key. To cancel, press the [F7] ("Cancel") key.**

Memory in Global mode

When the power is turned on, the Global mode data is called from internal memory into the Global mode memory area. Then when you modify the parameters in Global mode, the data in the memory area will be modified. If you wish to save this modified data in internal memory, you must write it.
When you write, the data in the memory area will be written into the global settings and drum kits, of internal memory.
If you turn off the power without writing, the modified data in the memory area will be lost.


Editing will affect the data that has been called into the memory area.
Edit
Memory Area
When you write, the various Global mode settings will be saved in internal memory.
Write
Power On
When the power is turned on, the settings are called into the memory area.
Internal Memory
Global Setting
Drum Kit

Saving on Floppy disk

For details on the data that can be saved on floppy disk. (☞p.37 "Types of data that can be saved").

Song data, patterns and cue lists in this instrument's Sequencer mode cannot be written into internal memory. This data will disappear when the power is turned off. If you wish to keep this data, you must save it on a floppy disk.

Other types of data can also be saved on a floppy disk, and loaded to restore the original settings even if they have been modified. It is a good idea to save favorite settings that you create.

As an example, we will explain how to save the following data.

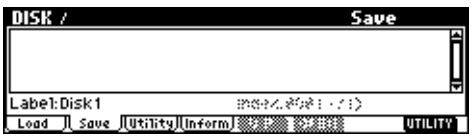
- Internal memory programs, combinations, global settings, drum kits, user arpeggio patterns
- Songs, cue lists, patterns

① **If you wish to save the data on a floppy disk, insert a floppy disk into this instrument's floppy disk drive.**

For details on floppy disk handling, be sure to refer to "Cautions when handling floppy disks" (☞p.95).

Format the disk if necessary (☞PG p.156)

② **Press the [DISK] key. You will enter Disk mode.**

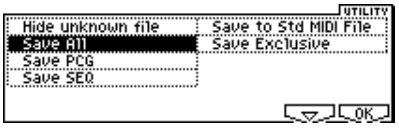


③ **Press the [F2] ("Save") key to access the Save page.**

④ **If the media contains directories, select the directory in which you wish to save the data.**

To move to a lower directory level, press the [F6] ("OPEN") key. To move to a higher level, press the [F5] ("UP") key.

⑤ **Select the "Save All" utility menu command.**

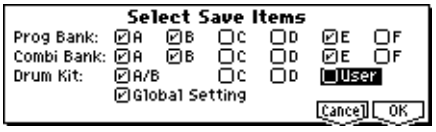


Press the [F8] ("UTILITY") key to access the utility menu. Press the [F7] key to select "Save All," and then press the [F8] ("OK") key.

A dialog box will appear. The contents of the dialog box and the settings etc. will differ depending on the type of data that you are saving. For details on each type of file (☞PG p.153).

⑥ **Press the [F5] ("Name") key to access the text dialog box, and input the name. (☞p.39)**

⑦ **Press the [F6] ("S.Item") key, and un-check the items that you do not need to save.**



Select Prog Bank, Combi Bank or Drum Kit, and select the items (banks) that you wish to save. The items whose check boxes are checked will be saved. After making your selection(s), press the [F8] ("OK") key.

⑧ **Press the [F8] ("OK") key to execute the Save operation.**

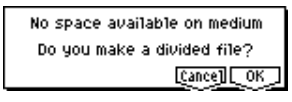
If the data fits on one floppy disk

The data will be saved on the specified floppy disk, and you will return to the Save page. The amount of time required will depend on the amount of data.

If a file with the same name already exists on the floppy disk, you will be asked whether you want to overwrite. If you wish to overwriting, press the [F8] ("OK") key. If you wish to save without overwriting, press the [F7] ("Cancel") key, re-do the operation from step ⑤, and rename the data in step ⑥ before saving it.

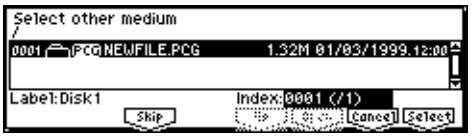
If the data does not fit on one floppy disk

The "No space available on medium" dialog box will appear. (☞PG p.154)



You can divide the file and save the data on multiple volumes of floppy disk.

1) Make sure that you have a sufficient number of floppy disks, and press the [F8] ("OK") key. Saving will begin.
2) When the disk is full, the following dialog box will appear.



3) Insert the next floppy disk into this instrument's floppy disk drive.
4) Press a function key etc. to make this instrument detect the next floppy disk.
5) Press the [F8] ("Select") key.
Saving will begin.
6) If the the dialog box of step 2) appears again, repeat steps 3)–5).
If you decide to cancel the Save operation, press the [F7] ("Cancel") key.
The dialog box of step 2) will appear. Press the [F7] ("Cancel") key will appear.
The display will ask "Are you sure?" Press the [F8] ("OK") key. This will cancel the Save operation.
7) When saving is complete, you will return to the Save page.

⑨ **When saving ends and you return to the Save page, the LCD screen will show the file that was saved.**

The data will be saved as the following files.

.PCG file
Programs, combinations, drum kits, and global settings that were saved in internal memory

.SNG file
Sequencer songs, cue lists, and user patterns

note When loading files that were saved across multiple volumes of disk, a "Where is a ..." dialog box will appear during the loading process. Insert the disk containing the specified file, select the directory, and press the [F8] ("Select") key to load the data. (☞PG p.151)

Other ways to save

In addition to "Save All," the utility menu commands include "Save PCG" which saves programs, combinations, drum kits, and global settings; "Save SEQ" which saves only sequencer songs, cue lists, and user patterns. Select the appropriate utility menu command for the data that you wish to save on floppy disk.

note When using “Save All,” and “Save PCG” to save combinations, you should also remember to save the programs used by each timbre (and the drum kits used by the programs) at the same time. Similarly when saving programs, you should also remember to save the drum kits.

MIDI data dump

The programs (A-F), combinations (A–F), drum kits and global settings of internal memory, and sequencer songs, cue lists, can be transmitted as MIDI exclusive data and saved on a connected MIDI data filer, computer, or another **KARMA**. (☞PG p.139)

Restoring the factory settings

Loading the preload data

The factory setting data is referred to as the "**preload data**", and you can restore the factory settings for this instrument's programs, combinations, and global settings by loading this preload data.

This will rewrite any data that had been written before loading. If you do not wish to lose this data, you must first save it on a floppy disk (☞p.40).

① **Insert the included KMFD-00P floppy disk into the floppy disk drive.**

For details on floppy disk handling, refer to "Disk mode" (☞p.95).

② **Press the [DISK] key to enter Disk mode.**

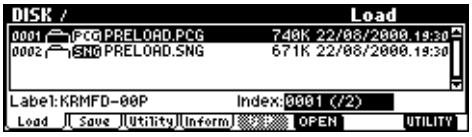
You will enter Disk mode.

③ **Press the [F1] ("Load") key.**

File information will be displayed in the Load page.

④ **Use the cursor keys [▲], [▼] to select "PRELOAD.PCG."**

It will be highlighted.



A .PCG file contains programs, combinations, drum kits, and global setting data.

⑤ **Press the [F8] ("UTILITY") key, choose the "Load selected" utility menu command, and press the [F8] ("OK") key.**

A dialog box will appear

⑥ **If "Load PRELOAD.SNG too" is checked when you load, the .SNG file will also be loaded when the .PCG file is loaded.**

⑦ **Press the [F8] ("OK") key, and loading will be executed.**

note Never remove the media while data is being loaded.

note If the "Memory Protected" dialog box appears, uncheck memory protect, and try the loading operation once again. (☞p.38)

Program mode

In Program mode you can select play and edit programs. Program mode consists of pages 1.1: Play–7.3: Ed–MasterFX.
In 1.1: Play you can select and play programs. You can also edit the sound in simple ways, and make KARMA function settings. (☞p.26, p.33)
In 2.1: Ed–Basic–7.3: Ed–MasterFX, you can edit the parameters of the program that was selected in 1.1: Play.

MIDI All transmission and reception of MIDI data in Program mode is performed on the Global MIDI channel. The global MIDI channel is set in GLOBAL 2.1: MIDI "MIDI Channel."

How a program is organized

A program consists of the many parameters of 2.1: Ed–Basic–7.3: Ed–MasterFX. The diagram below shows the structure of a program.

Basic program editing

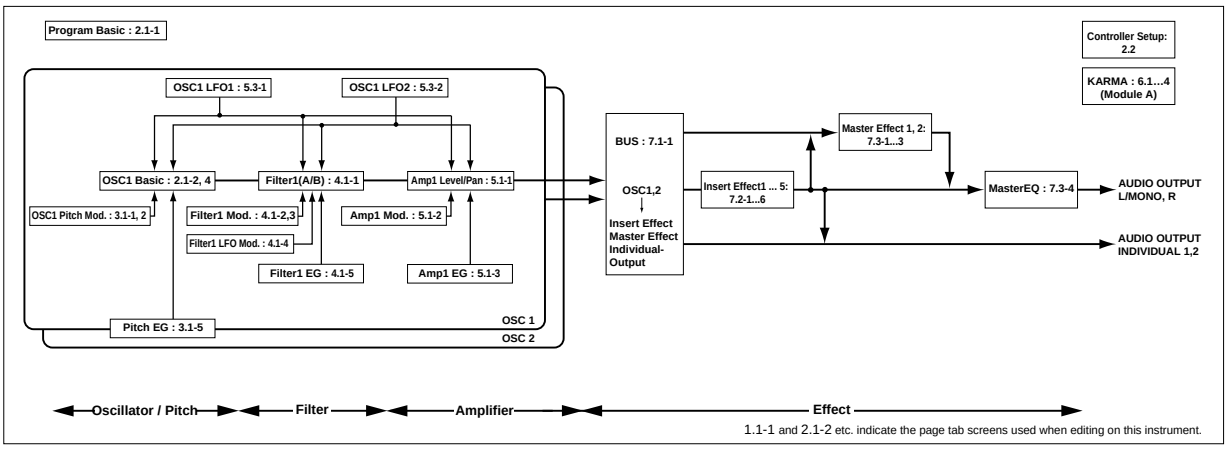
With the factory settings, this instrument's program bunks A, B, and E contain preloaded programs. You can modify these programs, or create your own original programs from an initialized state.
Programs you edit or create can be written to 640 program memory locations: bank A–E. Programs can also be saved in Disk mode on external media such as floppy disk. (☞p.38, p.40)

note For parameters in 2.1: Ed–Basic–5.3: Ed–LFOs that are set independently for each oscillator 1 and 2, you can use the Utility "Copy Oscillator" to copy settings from one oscillator to the other. This is a convenient way to make the same settings for two oscillators, or to copy settings from one oscillator to the other.

If you wish to save an edited program into internal memory, be sure to Write the program. (☞p.38)

If the separately sold EXB-MOSS option is installed, you will be able to use bank F. The parameter structure of bank F programs is different than that of the other banks. Refer to the EXB-MOSS owner's manual and PG p.269.

In this section we will give examples of how to modify representative parameters in each page. For details on all parameters, refer to in the PG p.1–.



The three elements of sound

Sound can be broken down into three elements: **pitch**, **tone**, and **volume**.
On this instrument, these elements correspond to the **Pitch**, **Filter**, and **Amplifier** settings of the program. In other words you would adjust the Pitch settings to modify the pitch, the Filter settings to modify the tone, and the Amplifier settings to modify the volume.

In **Oscillator** (**Oscillator**: 2.1: Ed-Basic settings) you select the waveform **multisample** that determines the basic sound, and specify its pitch. This sound is then modified by the **pitch** settings (**Pitch**: 3.1: Ed-Pitch), **filter** settings (**Filter**: 4.1, 4.2: Ed-Filter), and **amp** settings (**Amplifier**: 5.1, 5.2: Ed-Amp) to create the basic sound of the program.
This basic sound can then be modified further by using **insert effects** (7.2: Ed-Insert FX settings), **master effects**, and **master EQ** (7.3: Ed-Master FX settings) to apply finishing touches. When KARMAfunction settings (6.1 – 6.4: Ed-KARMA) and controller settings (2.2: Ed-Ctrl) are added to this, the final result is called a "**program**."

note Programs that are used in Combination, Sequencer, or Song Play mode have insert effect, master effect, master EQ, KARMA function, and controller settings that are separate from those of Program mode.

The Compare function

You can press the [COMPARE] to make the LED light. This will recall the sound that had been written before you started editing. Press the [COMPARE] key once again and the LED will go dark, and you will return to the sound that you had been editing. Use this function when you wish to compare the unedited sound with the results of your editing.

When the [COMPARE] key LED is lit, editing a parameter will make the LED go dark, and that sound will now be the sound that is recalled when the [COMPARE] key LED is dark.

Oscillator settings 2.1: Ed–Basic

In 2.1: Ed–Basic you can make oscillator-related settings. This instrument provides two oscillators, and for each oscillator you can select a basic waveform ("**multisample**") and set the pitch. The multisamples provided by this instrument include waveforms for musical instruments such as pianos, as well as special waveforms unique to synthesizers. Multisamples reproduce the complex overtone structure and frequency characteristics that allow us to identify a sound as being "piano-like" or "guitar-like."

Basic (Prog Basic) page

Mode (Oscillator Mode)

This sets the mode of the oscillator.
Single uses one oscillator and **Double** uses two oscillators. In the case of **Single** the maximum polyphony is 62 notes, and in the case of **Double** the maximum polyphony is 31 notes. If you wish to use a Drum Kit to create a drums program, select **Drums**. (☞p.46)

Mode (Voice Assign Mode)

Indicates whether the program will sound in **Poly** (polyphonically) or **Mono** (monophonically).
If this is set to **Poly**, you will be able to play chords using the program. If this is set to **Mono**, only one note will sound even if you play a chord. Normally you will set this to **Poly**, but it is effective to use **Mono** when you are playing sounds such as analog-synth bass or synth lead. Try switching between **Poly** and **Mono**, and listen to the result.

OSC1 page, OSC2 page

Specifies the multisample for oscillator 1, 2.

Selecting a multisample

The multisample will determine the basic character of the program.

○ **Use "High MS Bank" to select the multisample bank, and use "High Multisample" to select the multisample.**

If the "**High MS Bank**" is **ROM**, you can select preset multisamples. "High Multisample" can be selected from a range of **000–424**. (☞VNL)
If "**High MS Bank**" is **EXB***, you can select multisamples from a separately sold EXB-PCM series option. The type of installed option will be shown in "*."

note You can use the "Select by Category" utility to select internal ROM multisamples from 15 categories. (☞PG p.10)

High Multisample and Low Multisample

If you specify a High and Low multisample for an oscillator, either the High or the Low multisample will sound depending on the velocity of the note (i.e., the strength at which you play the keyboard). This function is called **velocity multisample switching**.

① **Specify different multisamples for "High Multisample" and "Low Multisample."**

② **Specify a velocity value for "Velocity SW L→H."**

Notes played on a connected MIDI keyboard at a velocity less than the value you specify will sound the **Low** multisample; velocities at or above this velocity value will sound the **High** multisample. For example if you set "**Velocity SW L→H**" to **100**, playing the keyboard softly will sound the "Low" multisample, and playing strongly will sound the "High" multisample.

③ **Adjust the "Level" for High and Low multisamples to set their volume balance.**

If you do not wish to use this function, set the "Velocity SW L → H" value to **001**. Only the High multisample will sound.

Rev (Reverse) check box

If this is **checked**, the multisample will be played backward. This can produce interesting results when used on sound-effects, etc. Normally you will not **check** this.

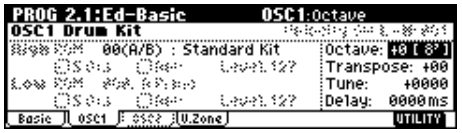
When "Oscillator Mode" = Double

To use OSC2, set "**Mode** (Oscillator Mode)" to **Double** in the Basic (Prog Basic) page.
In the same way as for OSC1, you can set High and Low multisamples for OSC2.

The playback pitch can be set independently. By using the same multisample with slightly different "Tune" settings, you can "detune" the oscillators to produce a richer sound.

note It will be convenient to use the Utility "Copy Oscillator" to make the oscillator settings match each other.

When "Oscillator Mode" = Drums

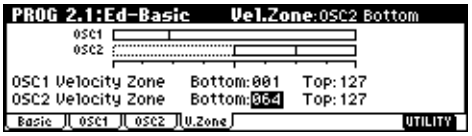


In the Basic (Prog Basic) page, set "**Mode** (Oscillator Mode)" to **Drums**. When this is set to **Drums**, you will be able to create a drum program.
This will select a **drum kit** instead of a multisample. This instrument provides sixteen factory preset drum kits that are suitable for a wide variety of music. (☞Drumkit name, VNL)
Here you can only select a drum kit. To edit or create a drum kit, use GLOBAL 5.1: DKit (☞p.90).

The following multisamples or drum kits can be used for the oscillator.

- 425 internal multisamples (ROM)
- Expansion multisamples (if separately sold EXB-PCM options are installed)
- Nine internal drum kits (ROM)
- 64 user drum kits created in Global mode (Drum samples can be freely assigned to each key to create a drum kit. For the sound of each key, you can make filter and amp settings, and specify routing to the effects and to the individual audio outputs.
- Expansion drum sets (if separately sold EXB-PCM options are installed)

V.Zone (Velocity Zone) page



Here you can specify the range of velocities that will sound oscillators 1 and 2. In the example shown above, the velocity ranges are as follows.

- OSC1 will sound for all velocity values.
- OSC2 will sound only for strongly played notes (64 and above).
- You can use Velocity Multisample Switching in addition to this (☞"High Multisample, Low Multisample"). For this example, set "OSC1" in "**Velocity SW L→H**" to **32** and "OSC2" to **96**. The settings are shown as vertical lines in the velocity zone display.

  In this example, the multisamples will sound over four levels.
  Velocity values 001–031:
  sound only the OSC1 Low multisample.
  Velocity values 032–063:
  sound only the OSC1 High multisample.
  Velocity values 064–095:
  sound the OSC1 High multisample and the OSC2 Low multisample.
  Velocity values 096–127:
  sound the OSC1 High multisample and the OSC2 High multisample.

Controller settings 2.2: Ed–Ctrl

Ctrls (Controls) page

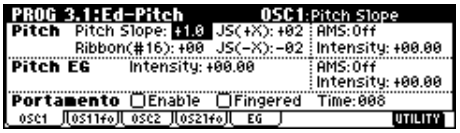
For each program, this tab lets you make settings for the [SW1] and [SW2,] and for the B-mode of REALTIME CONTROLS knobs [1]–[4] (☞p.103, PG p.10, 230, 231)

Pitch settings 3.1: Ed–Pitch

Here you can specify how the pitch of the multisample selected for the oscillator will change. Pitch EG and LFO settings allow the pitch to varied over time.

The parameters of the OSC2 page and OSC2lFO page are valid if "**Mode** (Oscillator Mode)" is set to **Double**.

OSC1 page



Pitch

The "**JS (–X)**" and "**JS(+X)**" settings specify the amount of pitch change (in semitones) that will occur when MIDI pitch bend messages are received or when the joystick is moved to left or right. A setting of **+12** allows the pitch to be controlled a maximum of one octave upward; a setting of **–12** allows the pitch to be controlled a maximum of one octave downward.

"**Ribbon (#16)**" specifies the amount of pitch change (in semitones) that will occur when MIDI control change (CC) #16 messages are received or when the ribbon controller of a TRITON or other MIDI-connected instrument is moved to left or right. With a setting of **+12**, the pitch will rise one octave at the far right of the ribbon controller, and fall one octave downward at the far left of the ribbon controller.

Pitch EG

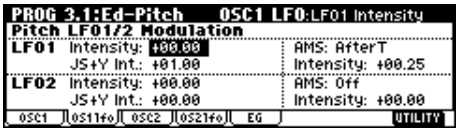
When the "**Intensity**" value is set to **+12.00**, the pitch EG specified in the Pitch EG page will produce a maximum of ±1 octave of pitch change.

Portamento

If "**Enable**" is **checked**, portamento will be applied. Portamento makes the pitch change smoothly when you play the next note before releasing the previous note.
The "**Time**" parameter specifies the portamento time. As this value is increased, the pitch will change over a longer time. With a value of **000**, there will be no portamento.

If **Porta.SW (CC#65)** is assigned as the function of [SW1] or [SW2] key, the portamento effect can be switched on/off by [SW1] or [SW2] key.

OS1lfo (OSC1 LFO) page



LFO 1/2

An LFO can be used to cyclically modulate the pitch (the "vibrato" effect).

"**Intensity** (LFO Intensity)" sets the depth to which the LFO specified in 5.3: Ed-LFOs will affect the pitch. With a setting of **+12.00**, vibrato will produce a maximum of ±1 octave of pitch change.

"JS+Y Int" specifies the amount of vibrato that the LFO will produce when the joystick is pushed away from yourself.
"**Intensity** (AMS Intensity)" specifies the depth of vibrato that will be applied by the LFO when AMS (Alternate Modulation Source) is operated. For example if "**AMS** (LFO1 AMS)" is set to **AfterT** and you set an appropriate value for "**Intensity** (AMS Intensity)," vibrato will be applied when you apply pressure to the keyboard of a connected MIDI instrument or when MIDI aftertouch messages are received.

EG (Pitch EG) page

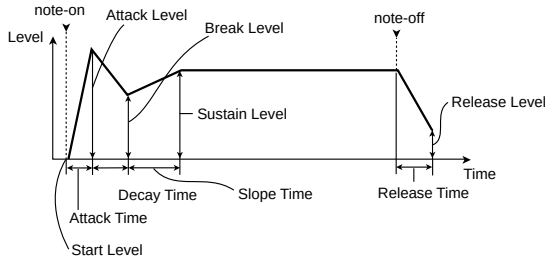
Here you can make settings for the pitch EG.
When you wish to create sound effects etc., set the pitch EG to make major changes in pitch over time.
To realistically simulate the slight change in pitch that occurs when a string is plucked or at the attack of a brass or vocal sound, you can use the EG to create a subtle change in pitch at the attack (☞PG p.13).

EG and LFO

By using an **EG** (envelope generator) to apply time-varying change or by using an **LFO** (Low Frequency Oscillator) to apply cyclic change to pitch, filter, or amp, you can create changes in the pitch, tone, and volume.

EG (Envelope Generator)

This instrument provides a Pitch EG, Filter EG, and Amplifier EG, which produce time-varying changes in pitch, tone, and volume respectively.

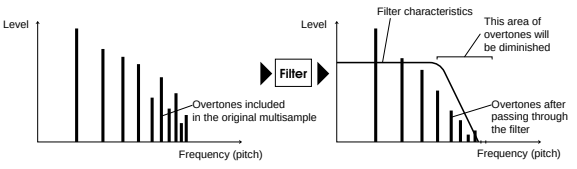


LFO (Low Frequency Oscillator)

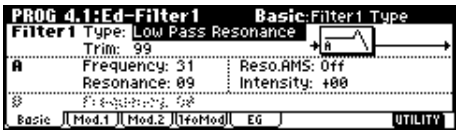
For each oscillator, this instrument provides two LFO's that can be used to apply cyclical change in pitch, tone, and volume.
Examples of this are **vibrato** (cyclical change in pitch), **wah** (cyclical change in tone), and **tremolo** or **auto-pan** (cyclical change in volume).

Filter settings
4.1: Ed–Filter1, 4.2: Ed–Filter2

The filter allows you to diminish or emphasize specified frequency areas of the multisample selected for the oscillator. **The tone of the sound will depend significantly on the filter settings.**
This instrument provides Filter 1 for OSC1 and Filter 2 for OSC2. For each of these filters, you can select from two types (**Low Pass Resonance or Low Pass & High Pass**). Filter 2 can be used if "**Mode** (Oscillator Mode)" is set to **Double**.



Basic page



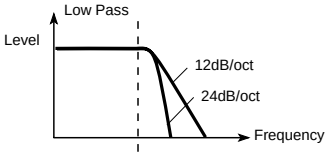
Filter Type, Filter A, Filter B

Selects the type of filter, and specify the "**Frequency**" (cutoff frequency) and "**Resonance**" (resonance level).

- **Low Pass Resonance** (24 dB/oct low pass filter with resonance): Make settings for filter A.
- **Low Pass & High Pass** (12 dB/oct low pass filter and 12 dB/oct high pass filter in series connection): Make low pass filter settings in filter A, and high pass filter settings in filter B.

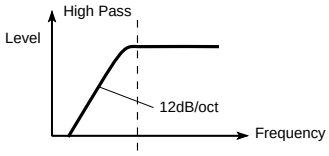
Low pass filter

This is the most common type of filter, which passes the low frequency range and cuts the high frequency range. When the overtones of the high range are cut, a bright sound will become darker (more mellow).
24 dB/oct and 12 dB/oct refer to the steepness of the cut. 24 dB/oct means that the gain will decrease 24 dB in one octave (i.e., as the frequency doubles). A 12 dB/oct filter would decrease the gain 12 dB in one octave. The 24 dB/oct filter produces a steeper cut.



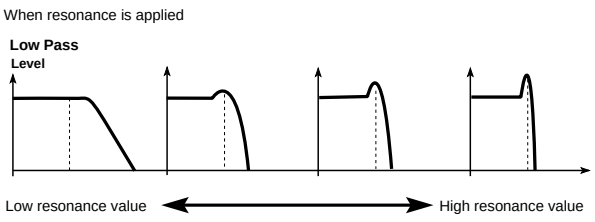
High pass filter

This type of filter passes the high frequency range and cuts the low frequency range. Use this when you wish to make the sound thinner. However if the cutoff frequency (Frequency) is raised excessively high, the volume will become very low.

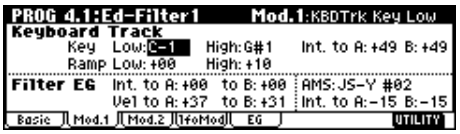


Resonance

When "**Resonance**" is set to a higher value, the overtones in the region of the cutoff frequency will be boosted as shown in the diagram below, giving a distinctive character to the sound.



Mod.1, Mod.2 page



Controllers and the filter EG can be used to modulate the filter cutoff frequency that was specified in the Basic page. By using a controller to vary the tone or by using an EG to create time-varying changes, you can add a rich variety of tonal change to the sound.

Keyboard Track (Mod.1 page)

This varies the cutoff frequency according to the keyboard location that you play.

- When Ramp "**Low**" is set to a positive **(+) value**, the cutoff frequency will rise as you play lower on the keyboard, making the sound brighter. When set to a negative **(–) value**, the cutoff frequency will fall as you play lower on the keyboard, making the sound darker.
- When Ramp "**High**" is set to a positive **(+) value**, the cutoff frequency will rise as you play higher on the keyboard, making the sound brighter. When set to a negative **(–) value**, the cutoff frequency will fall as you play higher on the keyboard, making the sound darker.
- **Int.** "**to A**" and "**to B**" adjust the effect that keyboard tracking will have on filters A and B (☞PG p.16).

Filter EG (Mod.1 page)

Adjusts the effect produced by the filter EG, whose settings are made in the EG page.

- Use the **Int**. "**to A**" and "**to B**" settings to specify the depth of the filter EG.
- Use the **Vel** "**to A**" and "**to B**" settings to specify the effect of velocity on the filter EG.
- "**AMS**" and "**Int to A, B**" adjust the effect that AMS will have on the filter EG depth.

  These three settings will determine the depth of the tonal change produced by the filter EG.

Filter Modulation (Mod.2 page)

Set this when you wish to produce tonal change by using controllers etc. to vary the cutoff frequency.

lfoMod (LFO Mod.) page

Indicates settings that allow the LFO to produce cyclic changes in tone (a "wah" effect).

Intensity: "**to A** (LFO1 Int. to A)" and "**to B** (LFO1 Int. to B)" specify how greatly the LFO will change the tone.
JS-Y Int.: "**to A**" and "**to B**" specify the depth of the wah effect that will be produced by the LFO when the joystick of this instrument is moved toward yourself, or when CC#2 is received.
"**Int. to A**" and "**Int. to B**" specify the depth of the wah effect that will be produced by the LFO when "**AMS**" (Alternate Modulation Source) is operated. For example if "**AMS**" is set to **AfterT**, applying pressure to the keyboard of a connected MIDI instrument (that has aftertouch) will apply a wah effect.

EG page

Indicates settings for the filter EG, which controls time-variant changes in tone (☞PG p.18). Make settings for the EG here, and set the depth of its effect in the Mod.1 page "Filter EG" parameter.

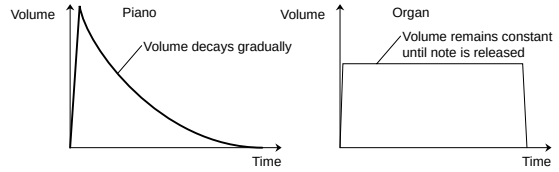
Filter EG and Amplifier EG

When the Filter EG changes the cutoff frequency, the tone will change. However depending on the volume changes produced by the Amplifier EG, this can be heard in different ways. For example by changing the speed at which the tone and volume begin (attack) or decay, you can significantly vary the character of the tonal change. It is a good idea to adjust the changes of both the Filter EG (tone) and the Amplifier EG (volume) as you proceed with editing. (☞"5.1: Ed–Amp1, EG page, 5.2: Ed–Amp2, EG page)

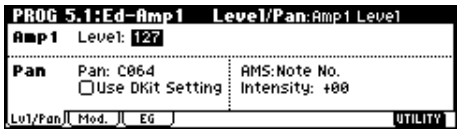
Amplifier settings
5.1: Ed–Amp1, 5.2: Ed–Amp2

These settings affect the volume. Here you can adjust the way in which the Amp EG and LFO produce time-varying and cyclic changes in volume, and how the controllers etc. will affect the volume.
Amp1 applies to OSC1, and Amp2 applies to OSC2. Amp2 can be used if "**Mode** (Oscillator Mode)" is set to **Double**.

For example, the volume of a piano note begins at a high volume the instant you play the note, and then decreases gradually. The volume of an organ note remains constant as long as you continue pressing the key. The volume of a note on a violin or wind instrument can be varied during the note by the musician (i.e., by regulating the amount of pressure on the bow or the force of the breath).



Lvl/Pan (Level/Pan) page



Amp1 Level, Amp2 Level

Adjusts the volume of the sound that has passed through the oscillator, filter, and amp.

Pan

Specifies the pan (stereo position) after the signal has passed through the oscillator, filter, and amp. Normally you will set this to **C064**. If "**Mode** (Oscillator Mode)" is **Double** and you wish to create a sense of stereo, set the 5.1: Ed-Amp1 and 5.2: Ed-Amp2 parameter "**Pan**" to left and right for oscillators 1 and 2 respectively. With a setting of **Random**, the pan will change randomly each time you play a note on this instrument, producing an interesting effect.

AMS Intensity

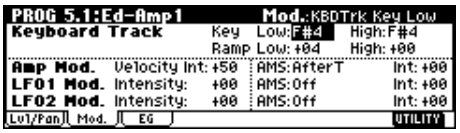
"**Intensity**" specifies the depth of the panning effect that will occur when "**AMS**" is operated.

If you set "AMS" to **Note No.**, the pan will change according to the keyboard position at which you play a note on a this instrument. With a setting of **LFO1** or **2**, the pan will sweep from side to side (auto pan). Other settings allow you to move the oscillator pan by operating a controller.

Use DKit Setting

This is valid when "**Mode** (Oscillator Mode)" is set to **Drums**. If this is **checked**, the pan location specified by the Drum Kit for each drum sound will be used. If this is **unchecked**, all drum sounds will sound at the same location. Preload and GM drum kits are set to stereo settings. Normally you will leave this **checked**.

Mod. page


PROG 5.1:Ed-Amp1 Mod.:KBDTrk Key Low
Keyboard Track Key Low:F#4 High:F#4
Ramp Low:+04 High:+00
Amp Mod. Velocity Int:+50 AMS:AfterT Int:+00
LFO1 Mod. Intensity: +00 AMS:Off Int:+00
LFO2 Mod. Intensity: +00 AMS:Off Int:+00
Lvl/Pan Mod. EG UTILITY

This varies the cutoff frequency according to the keyboard location that you play.

Keyboard Track

This lets you vary the volume by the keyboard location you play.

- When Ramp "**Low**" has a positive **(+) value**, the volume will increase as you play lower on the keyboard. With a negative **(–) value**, the volume will decrease as you play lower on the keyboard.
- When Ramp "**High**" has a positive **(+) value**, the volume will increase as you play higher on the keyboard. With a negative **(–) value**, the volume will decrease as you play higher on the keyboard.

Amp Mod.

"**Velocity Int**" is used by most programs to decrease the volume of softly played notes and increase the volume of strongly played notes, and this Amp Modulation parameter adjusts the depth of this control. Normally you will set Amp Modulation to positive **(+) values**. As this setting is increased, there will be greater volume difference between softly played and strongly played notes.

LFO1 Mod., LFO2 Mod.

Specify how the LFO's will produce cyclic changes in volume (the tremolo effect).
The volume will be affected by the LFO(s) for which you set an "**Intensity** (LFO1 Intensity, LFO2 Intensity)" value.

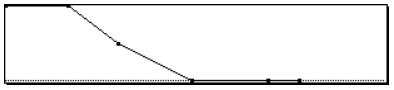
"**Int** (AMS Intensity)" adjusts the depth by which the tremolo effect produced by the LFO will be affected when you operate an "**AMS** (LFO1 AMS, LFO2 AMS)." For example if you set "**AMS**" to **JS-Y #02**, tremolo will be applied when you move the joystick of this instrument. toward yourself, or when CC#02 is received.

EG page

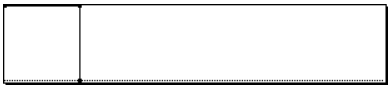
Here you can make settings for the amp EG, which changes the volume over time.

Every instrument has its own characteristic curve of volume change. This is part of what gives each instrument its identifiable character. Conversely, by applying a strings-type Amp EG curve to an organ-type multisample, you can produce a sound with a character unlike a typical organ.

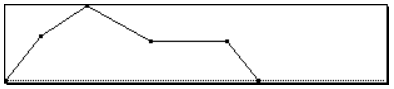
Piano



Organ

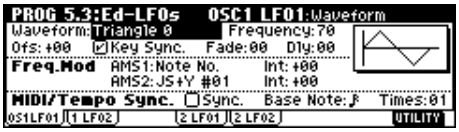


Strings



LFO settings 5.3: Ed–LFOs

For each oscillator, you can use two LFO (Low Frequency Oscillator) units: LFO1 and LFO2. You are free to select the type of each LFO and set its speed.
The depth of the LFO1 and LFO2 that you specify here is adjusted by the settings of the 3.1: Ed-Pitch, 4.1: Ed-Filter1, 4.2: Ed-Filter2, 5.1: Ed-Amp1, and 5.2: Ed-Amp2 pages.



OSC1 LFO1, OSC1 LFO2, OSC2 LFO1, OSC2 LFO2

"**Waveform**" selects the type of LFO. You can choose from a variety of waveforms, including standard waveforms such as **Triangle**, **Saw**, **Square**, and **Sine**, as well as **Step** or **Random PG** waveforms that produce a sample-and-hold effect (☞PG p.24).
You can create a wide variety of effects by adjusting the "**Ofs**," "**Fade**," and "**Dly**" settings, and by changing the sign (+/–) of the "Intensity" setting in the 3.1: Ed-Pitch, 4.1: Ed-Filter1, 4.2: Ed-Filter2, 5.1: Ed-Amp1, and 5.2: Ed-Amp2 pages. "**Frequency**" specifies the speed of the LFO.

Freq.Mod (Frequency Modulation)

"**AMS**" can be used to vary the LFO speed. This lets you change the LFO speed by operating a controller, or by the EG or Keyboard Track settings.

MIDI/Tempo Sync.

If "**MIDI/Tempo Sync**" is **checked**, the "**Frequency**" setting will be ignored, and the LFO will synchronize to the tempo of the sequencer etc. This lets you produce vibrato, wah, auto-pan, or tremolo that is synchronized to the playback speed of the sequencer.

KARMA function settings 6.1: Ed–KARMA.

Here you can make KARMA function settings (☞p.77).

BUS settings 7.1: Ed–BUS

You can specify the oscillator routing (the signal sent to the insert effects, master effects, and independent outputs) (☞p.98).

Insert Effect settings 7.2: Ed–InsertFX

Here you can select insert effects and make settings for them (☞p.98).

Master Effect settings 7.3: Ed–MasterFX

Here you can select master effects and make settings for them. The master EQ is also set here (☞p.99).

More about Alternate Modulation

Alternate Modulation is a type of modulation that can be used to control various aspects of the sound.

AMS (Alternate Modulation Source) refers to any of the numerous sources that can control alternate modulation, and includes controllers that you operate physically such as the joystick and realtime controllers, incoming MIDI data, as well as modulators such as the EG or LFO.
Since this instrument allows you apply modulation to a modulator, this type of control is referred to as "alternate modulation."

Intensity is a parameter that sets the degree (speed or depth) to which AMS will control alternate modulation.

Combinations of modulations that are frequently used in on the synthesizer. performance (such as using the joystick to vary the pitch) are also provided as special parameters separately from alternate modulation.

This instrument provides 29 types of alternate modulation.
In single mode you can use 29 alternate modulation destinations of 29 types, and in double mode you can use 55 alternate modulation destinations of 29 types.
There are 42 AMS sources. (However depending on the type of modulation, some sources cannot be selected.)
For details on alternate modulation and AMS, refer to PG p.221.

Suggestions on using alternate modulation

When making settings for alternate modulation, think of the effect that you wish to produce, what type of modulation will be necessary to produce that effect, and what parameter of the oscillator, filter, or amplifier needs to be controlled. Then select a source ("**AMS**") and set the "**Intensity**." If you proceed logically in this way, you will achieve the desired effect.

For example if you want to "control a guitar-like sound so that it appears to be approaching feedback when the joystick is moved away," you will make settings so that the joystick controls filter modulation or the resonance level.

Combination mode

In Combination mode you select, play and edit combinations.
Combination mode consists of pages 1.1: Play–7.3: Ed-MasterFX.
In 1.1: Play you can select and play combinations. You can also do some overall editing, and make KARMA function settings (☞p.29).
In 2.1: Ed-Basic–7.3: Ed-MasterFX you can edit the parameters of the combination that was selected in 1.1: Play.

How a combination is organized

A combination consists of a variety of parameters that can be accessed in 2.1: Ed-Basic–7.3: Ed-MasterFX. The diagram below shows how a combination is structured.

Basic combination editing

Banks A, B and E of this instrument contain a wide variety of combinations that use the preloaded programs (bank A, B and E) and KARMA function and effects. You can edit these combinations, or create your own original combinations from an initialized state.

A combination that you edited or created can be written into one of 768 combination memory locations in banks A–F. Combinations can also be stored or organized on external media such as floppy disk in Disk mode. (☞p.38, p.40)

note If a program being edited in Program mode is used in a combination, it will sound according to the settings being edited.

If you wish to save an edited combination in internal memory, you must write it. (☞p.38)

note If the separately sold EXB-MOSS option is installed, bank F programs can be used for the timbres of a combination. For details on the parameters of bank F programs, refer to the EXB-MOSS owner's manual and PG p.269.

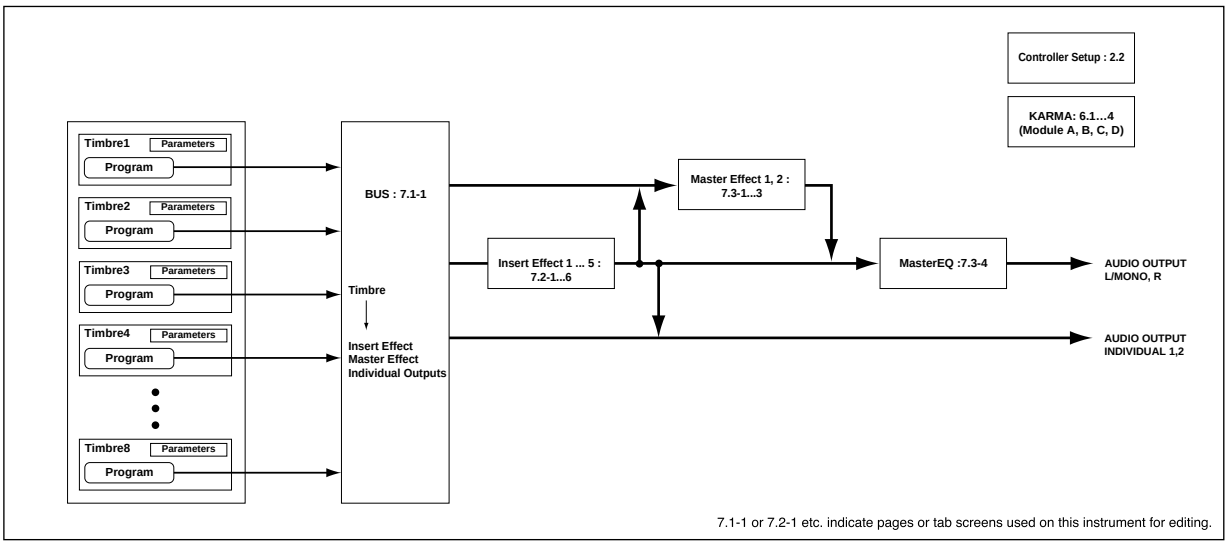
Suggestions for editing procedure

The parameters of each timbre are set in 2.1: Ed-Prog/Mix–4.4: MIDI Filter4, and 7.1:Ed-BUS. This is where you create the basic combination consisting of the programs you select here.
First use 2.1: Ed-Prog/Mix to select the program for each timbre, and then use 3.3: Ed-Key Zone and 3.4: Ed-Vel Zone to specify the range in which each program will sound (layer, split, velocity switch, etc.). Then adjust the volume of each timbre, and set various other parameters.

To add finishing touches to the sound, you can make **insert effect** settings (in 7.2: Ed-Insert FX) and **master effect** and **master EQ** settings (in 7.3: Ed-Master FX) that are separate from the effect settings of Program mode. In addition, you can make KARMA function settings (in 6.1–6.4: Ed-KARMA.) and controller settings (in 2.2: Ed-Ctrl) to create the finished **combination**.

note By using the utility menu command "Solo Selected Timbre", you can listen only to the selected timbre. This is a convenient way to audition individual sounds of timbres that are layered. (☞p.35)

note In pages that display all timbres 1–8, such as 2.1: Ed-Prog/Mix, you can use the [◄] [►] keys to select timbres. You can also select timbres directly by holding down the [TIMBRE/TRACK] key and pressing one of the [F1 1/9]–[F8 8/16] keys.

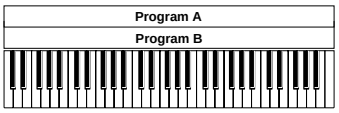


Layer, split, and velocity switch

Within a combination, you can use keyboard location and velocity to change the program that sounds. The programs assigned to each timbre can sound in three ways: as a **layer**, a **split**, or a **velocity switch**. A combination can be set to use any one of these methods, or to use two or more of these methods.

Layer

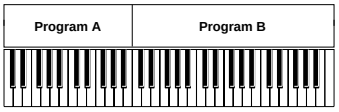
Layer refers to settings which cause two or more programs to sound simultaneously when a note is played.



Layer:
Two or more programs sound simultaneously.

Split

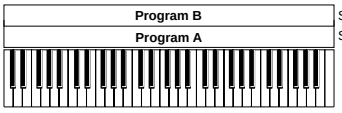
Split refers to settings which cause different programs to sound on different areas of the keyboard.



Split:
Different programs will sound in different areas of the keyboard.

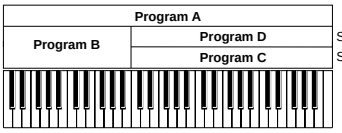
Velocity switch

Velocity Switch refers to settings which cause different programs to sound depending on the velocity (keyboard playing dynamics).



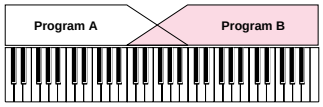
Velocity Switch:
Keyboard playing dynamics (velocity) switches between different programs.

On this instrument, you can use a different program for each of up to eight timbres, and combine two or more of the above methods to create even more complex setups.

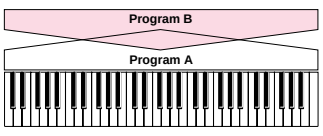


Example:
B and C, D are split. In the lower keyboard range, A and B are layered. In the higher keyboard range, C and D are switched by velocity and layered with A.

As an additional possibility, you can set the slope for a key zone or velocity zone so that the volume diminishes gradually. This lets you change a split into a **keyboard crossfade**, or a velocity switch into a **velocity crossfade**.



Keyboard X-Fade (keyboard crossfade):
As you play from low notes to high notes, the volume of A will fade out, and the volume of B will fade in.



Velocity X-Fade (velocity crossfade):
As you play with increasingly stronger velocity, the volume of A will fade out, and the volume of B will fade in.

The Compare function

When you press the [COMPARE] key (LED lit), the combination that had been written before you begin editing will be recalled. If you press the [COMPARE] key once again (LED dark), you will return to the sound that you had been editing. Use this when you wish to compare the edited sound with the un-edited sound.

If you continue editing when the [COMPARE] key LED is lit, the LED will go dark, and the current sound will now be the sound that is recalled when the [COMPARE] key LED is dark.

In the section below, we will edit typical parameters in each page while listening to the effect of each parameter.
For a more detailed explanation of these parameters, refer to PG p.43–.

Timbre 1–8 program, pan and volume 2.1: Ed–Prog/Mix

Here you can assign programs to each timbre 1–8, and set pan and volume for each. (These settings can also be made in the Prog and Mix pages of 1.1: Play.)

Prog page

COMBI 2.1:Ed-Prog/Mix Prog:Program Select
1 Keyb 2 Strin 3 Strin 4 Strin 5 Strin 6 Strin 7 Keyb 8 Drum
A033 A099 A099 A099 A099 A099 A001 B116
Romance Analog S Analog S Analog S Analog S Analog S Acoustic Percuss
T01: A033:Romance Piano Ch:Gch
Prog Mix UTILITY

Program Select

Assigns a program to each timbre.

You can use the utility menu command"Select by Category" to select programs from 16 categories. (☞p.32)

You can also use the [BANK] and [A]–[G] keys to select the bank of the program.

If you wish to select programs by receiving MIDI program changes, do so in P1.1: Play.

Mix (Mixer) page

COMBI 2.1:Ed-Prog/Mix Mixer:Volume
1 Keyb 2 Strin 3 Strin 4 Strin 5 Strin 6 Strin 7 Keyb 8 Drum
C064 R085 R085 R085 R085 R085 C064 C064
122 067 067 067 067 067 122 067
T01: A033:Romance Piano Ch:Gch
Prog Mix UTILITY

Pan

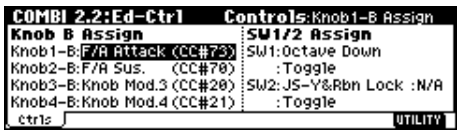
Specifies the panning (stereo location) for each timbre. A setting of **C064** will reproduce the oscillator pan setting of the program. Moving this to left or right will move the sound to left or right while preserving the pan relationship between the oscillators. A setting of **L000** is far left, and **R127** is far right.

Volume

Adjusts the volume of each timbre.
Create the overall sound by adjusting the volume balance between timbres. The "**Volume**" setting is an important aspect of creating the sound, and this setting will have a significant effect on the overall impression produced by the Combination.

Controller settings 2.2: Ed–Ctrl

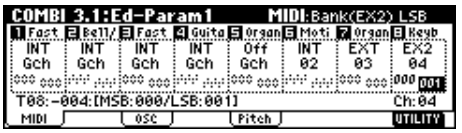
Ctrls (Controls) page



For each combination, you can specify the functions of the B-mode functions of REALTIME CONTROLS knobs [1]–[4], and the [SW1] and [SW2.] (☞p.103, PG p.49, 230, 231*)*

Settings for status, MIDI channel, and playing mode 3.1: Ed–Param1

MIDI page



Status

Here you can specify the state of MIDI and the internal tone generator for each timbre. Normally when sounding the internal tone generator of this instrument, you will set this to **INT**. Set this to **Off** for timbres that you are not using. With settings of **Off**, **EXT**, or **EX2**, this instrument will not sound. With settings of **EXT** or **EX2**, you can control an external tone generator connected via MIDI. (☞PG p.49)

MIDI Channel

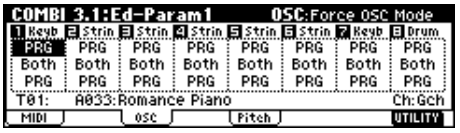
Timbres that you wish to play from this instrument's keyboard must be set to the global MIDI channel. Your playing on the keyboard is transmitted on the global MIDI channel, and will sound any timbre that matches this channel. Normally you will set this to **Gch**. When this is set to **Gch**, the MIDI channel of the timbre will always match the global MIDI channel, even if you change the global MIDI channel.

note In some of the preloaded combinations, "**MIDI Channel**" may be set to other than **Gch**.
This is so that different programs for each timbre will play when the KARMA function is on. Set the MIDI "**Input Channel**" of each KARMA module to match the global MIDI channel, and set its MIDI "**Output Channel**" to match the MIDI channel of a timbre ("MIDI Channel"). Also by setting the "**Timb Thru**" parameter for each KARMA module, you can make a KARMA module play even if the MIDI channel of the timbre does not match the global MIDI channel when the KARMA function is off.
By using these parameters and the "**OSC On/Off Ctrl**" parameter (☞PG p.51), you can freely specify the timbres that will be sounded by the keyboard or by each KARMA module when the KARMA function is on or off.
This is a very powerful capability when you are creating a combination that uses the KARMA function.
For details on how the KARMA module parameters "Input Channel," "Output Channel," and "Timb Thru", and (individual timbre) "MIDI Channel" are related, refer to "MIDI I/O channel settings" (☞PG p.83).

Bank(EX2) MSB, Bank(EX2) LSB

This setting is valid when "**Status**" is set to **EX2**. It specifies the Bank Select message that will be transmitted from this instrument.

OSC page



Force OSC Mode

Normally you will set this to **PRG**.
If you wish to force a polyphonic program to sound monophonically, set this either to **Mono** or **LGT (Legato)**. Conversely, set this to **Poly** if you wish to force a monophonic program to play polyphonically (☞PG p.50).

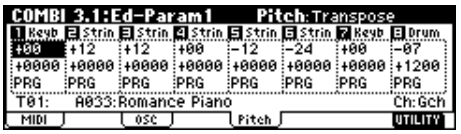
OSC Select

Normally you will set this to **Both**.
If the timbre is using a program whose "**Mode** (Oscillator Mode)" is **Double**, and you want only OSC1 or OSC2 (not both) to sound, set this to **OSC1** (only OSC1 will sound) or **OSC2** (only OSC2 will sound).

Portamento

Normally you will set this to **PRG**.
If you want the portamento setting specified for the program of the timbre to be forced off, set this parameter to **Off**. Conversely, if you want to forcibly turn the portamento on, or to change the portamento time, set this to a value of **001–127** to specify the portamento time.

Pitch page


COMBI 3.1:Ed-Param1 Pitch:Transpose
1 Keyb 2 Strin 3 Strin 4 Strin 5 Strin 6 Strin 7 Keyb 8 Drum
+00 +12 +12 +00 -12 -24 +00 -07
+0000 +0000 +0000 +0000 +0000 +0000 +0000 +1200
PRG PRG PRG PRG PRG PRG PRG PRG
T01: A033:Romance Piano Ch:Gch
MIDI OSC Pitch UTILITY

Transpose, Detune (BPM Adj.)

These parameters adjust the pitch of the timbre.

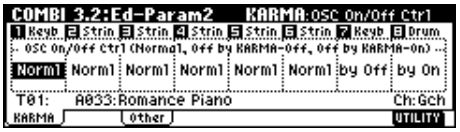
- In a layer-type combination, you can set two or more timbres to the same program, and create a richer sound by using "**Transpose**" to shift their pitch apart by an octave or by using "**Detune**" to create a slight difference in pitch between the two.
- In split-type combinations, you can use "**Transpose**" to shift the pitch (in semitone units) of the programs specified for each key zone.
- If you wish to change the playback pitch of a drum program, use "**Detune**." If you change the "**Transpose**" setting, the correspondence between notes and drum sounds will change.

Turn KARMA on/off, and specify note delay and scale

3.2: Ed-Param2

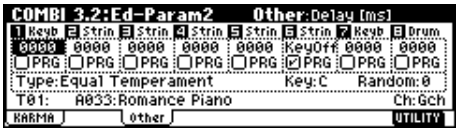
KARMA page

OSC On/Off Ctrl


COMBI 3.2:Ed-Param2 KARMA:OSC On/Off Ctrl
1 Keyb 2 Strin 3 Strin 4 Strin 5 Strin 6 Strin 7 Keyb 8 Drum
OSC On/Off Ctrl (Normal, Off by KARMA-Off, Off by KARMA-On)
Norml Norml Norml Norml Norml Norml by Off by On
T01: A033:Romance Piano Ch:Gch
KARMA Other UTILITY

This setting controls whether the timbre will sound when KARMA is turned on/off by the KARMA [ON/OFF] key. (☞p.51)

Other page


COMBI 3.2:Ed-Param2 Other:Delay [ms]
1 Keyb 2 Strin 3 Strin 4 Strin 5 Strin 6 Strin 7 Keyb 8 Drum
0000 0000 0000 0000 0000 KeyOff 0000 0000
PRG PRG PRG PRG PRG PRG PRG PRG
Type:Equal Temperament Key:C Random:0
T01: A033:Romance Piano Ch:Gch
KARMA Other UTILITY

Delay [ms]

Specifies the timing at which the program of each timbre will sound. Specify the time from when you play the keyboard until the program will sound.
If you select **KeyOff** for this parameter, the timbre will sound when the note is released.

Use Prog's Scale, Combi's Scale

Specifies the scale for each timbre. If you **check** "**Use Prog's Scale**," the scale specified by the program will be used. Timbres for which this is **not checked** will use the "**Combi's Scale**" setting.

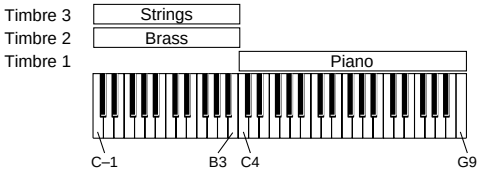
Layer and split settings
3.3: Ed–Key Zone

Indicates settings such as layer, split, and keyboard crossfade.

Key page

Specifies the range of notes that will sound each timbre. Each area that sounds a timbre is referred to as a **Key Zone**. By setting key zones, you can create a combination in which different programs sound in different areas of the keyboard.
By combining key zones specified for each timbre, you can create **layered** or **split** combinations.

The upper and lower limits for the key zone of each timbre are set by the "**Top Key**" and "**Bottom Key**" respectively.
For example in the following diagram, timbres 1–3 are set to create a layered and split combination. This is specified by the key zone settings.
Timbres 2 and 3 create a layer. Timbre 1 and timbres 2/3 are split between the B3 and C4 note numbers.



As an example here, we will explain how to create a combination like the one shown above.

① **In 1.1: Play or 2.1: Ed-Prog/Mix, select the programs that timbres 1–3 will use.**

Select a piano program for timbre 1.
Select a brass program for timbre 2.
Select a strings program for timbre 3.

② **In the MIDI page of 3.1: Ed-Param1, set "Status" to INT for all the timbres that you wish to use, and set "MIDI Channel" to either Gch or to match the global MIDI channel (a "G" will be displayed after the channel number).**

③ **In the Key page of 3.3: Edit-Key Zone, set "Top Key" and "Bottom Key."**

Set timbre 1 to a **"Top Key" of G9 and a "Bottom Key" of C4**.
Set timbres 2 and 3 to **a "Top Key" of B3 and a "Bottom Key" of C–1**.

note You can also enter these values by holding down the [ENTER] key and playing a note on the keyboard of this instrument.

Slope page

Here you can specify the range of keys over which the original volume will be reached, starting at the top key and bottom key.

In the case of the above example, you could set the key zones so that a portion of timbres 1 and 2 overlaps (i.e., is layered) with timbre 3, and set "**Top Slope**" and "**Bottom Slope**" so that the sound changes gradually, instead of changing suddenly between **B3** and **C4**.

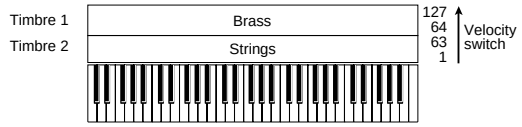
Velocity switch settings
3.4: Ed–Vel Zone

Here you can make settings for velocity switching and velocity crossfading.

Vel (Velocity) page

For each timbre, you can specify a range of velocities for which it will sound. The range of velocities for which a timbre will sound is called the **Velocity Zone**. By setting a velocity zone, you can set up a timbre which will be sounded only by notes played at a certain strength, and not by stronger or weaker notes. By combining timbres that have differing velocity zone settings, you can create **velocity switched** combinations.

The upper and lower limits of the velocity zone of each timbre are determined by the "**Top Velocity**" and "**Bottom Velocity**" respectively. The following diagram shows an example of a velocity switched combination in velocity will switch between timbres 1 and 2 to play different programs. Such combinations are created by setting the velocity zone.



As an example, we will explain how to create a combination like the one shown above.

① **In 1.1: Play or 2.1: Ed-Prog/Mix, select the programs that timbres 1–2 will use.**

Select a brass program for timbre 1.
Select a strings program for timbre 2.

② **In the MIDI page of 3.1: Ed-Param1, set "Status" to INT for all the timbres that you wish to use, and set "MIDI Channel" to either Gch or to match the global MIDI channel (a "G" will be displayed after the channel number).**

③ **In 3.4: Ed–Vel Zone Vel page, set the "Top Velocity" and "Bottom Velocity."**

Set timbre 1 to **a "Top Velocity" of 127 and a "Bottom Velocity" of 64**.
Set timbre 2 to **a "Top Velocity" of 63 and a "Bottom Velocity" of 1**.

note You can also enter these values by holding down the [ENTER] key and playing a note on the keyboard of this instrument.

Slope page

Here you can specify the range of values over which the original volume will be reached, starting from the top velocity and bottom velocity.

In the case of the above example, you could set the velocity zones of the two timbres so that they partially overlap, and set "**Top Slope**" and "**Bottom Slope**" so that the sound changes gradually, instead of changing suddenly between velocity values of **63** and **64**.

MIDI filter settings
4.1: Ed–MIDI Filter1–4.4: Ed–MIDI Filter4

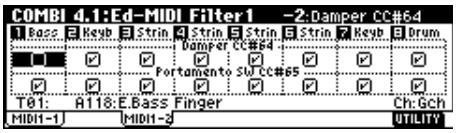
For each MIDI Filter item, you can specify whether or not the corresponding MIDI message will be transmitted and received. The **checked** items will be transmitted and received.

MIDI filter does not turn the function itself on/off, but specifies whether or not that MIDI message will be transmitted and received. For example if portamento is on, portamento will be applied to the sound of this instrument even if "Portamento SW CC#65" is unchecked.

For example if you selected a bass program for timbre 1 and a piano program for timbre 2 to create a split-type combination, you could make the following settings so that pressing the connected damper pedal would apply the damper effect only to the piano program of timbre 2.

○ **Set "Damper CC#64" in 4.1: Ed-MIDI Filter1, MIDI 1-2 page.**

Timbre 1 **"Damper CC#64": unchecked**
Timbre 2 **"Damper CC#64": checked**


COMBI 4.1:Ed-MIDI Filter1 -2:Damper CC#64
1 Bass 2 Keyb 3 Strin 4 Strin 5 Strin 6 Strin 7 Keyb 8 Drum
Damper CC#64
Portamento SW CC#65
T01: A118:E.Bass Finger Ch:Gch
MIDI1-1
MIDI1-2
UTILITY

KARMA function settings
6.1: Ed–KARMA–6.4:Ed–KARMA RT.

Indicates settings for the KARMA function (☞p.83).

Bus settings 7.1: Ed–BUS

Specifies the routing for each timbre (i.e., how it is sent to the insert effects, master effects, and individual outputs). (☞p.99)

Insert Effect settings 7.2: Ed–InsertFX

Indicates insert effects, and make settings for them. (☞p.100).

Master Effect settings
7.3: Ed–MasterFX

Indicates master effects, and make settings for them. Here you can also make master EQ settings (☞p.99).

Sequencer mode

This instrument contains a 16-multi track MIDI sequencer. The sequencer is the center to which KARMA Music Workstation's numerous functions are integrated, allowing it to be used in a variety of situations including music production and live performance.

When you turn off the power, the settings made in Sequencer mode and the song data, cue list data, and user pattern data that you recorded are not backed up. If you wish to keep this data, you must save it on a floppy disk before turning off the power, or perform a MIDI data dump to save the data on an external data filer etc.
If you wish to save the programs, track parameters, effects, and KARMA function settings etc. selected for a song as a template song, use the utility menu command "Save Template Song."
Immediately after the power is turned on, this instrument will not contain any cue list data or song data, so if you wish to playback a song on the sequencer, you must first load data from floppy disk or receive a MIDI data dump from an external MIDI sequencer (☞p.40, p.93, PG. p.140)

Features of the sequencer

- The sequencer lets you record a **maximum of 200,000 events** (note data etc.), up to **200** songs, and as many as **999** measures per song.
- Up to **20 cue lists** can be created.
  A cue list is an arrangement of up to 99 songs that will be played as a chain. You can specify the number of times that each song will repeat. Songs in a cue list can also be converted into a single song.
- The **KARMA function** can be used for playback or recording.
- The **RPPR (Realtime Pattern Play/Recording) function** can be used for playback or recording.
- **Sixteen different template songs** are built-in, and contain program and effect settings suitable for various musical styles. Up to sixteen original templates that you create can be registered as user template songs.
- **Five stereo insertion effects**, **two master effects**, and a **stereo master EQ** can be used for each song.
- If the separately sold EXB-MOSS option is installed, **MOSS tone generator** programs can be played multi-timbrally. (For example, you could use two bass voices and four electric piano voices. However, effect settings cannot be made separately.)
- Timing resolution is a maximum of ♩/192.
- **Sixteen tracks** are provided for musical data, and a **master track** contains time signature and tempo data that controls the playback.
- A **track play loop function** lets you loop specified measures independently for each track.
- **150 preset patterns** ideal for drum tracks are built in. In addition, you can create up to 100 user patterns for each song. These patterns can be used as musical data within a song, or can be played by the RPPR function.
- Various methods of recording are supported, including **realtime recording** in which your performance on the keyboard and controllers (including MIDI control events) is recorded just as you play, and **step recording** in which the timing, length, and velocity of each note can be specify in the LCD as you input the pitches from the keyboard.
- The musical data and control events that you recorded can be edited in various ways (including event editing and many other edit commands).
- When the "**Status**" of a track is set to **INT** or **BTH**, an external sequencer can be used to play this instrument as a **multi-timbral tone** generator. When the "**Status**" of a track is set to **BTH**, **EXT**, or EXT2, the sequencer of this instrument can **play external tone** generators.
- Playback can be **synchronized with an external** MIDI device.
- This instrument's **AMS (Alternate Modulation)** capability lets you use control changes for realtime control of the parameters of the programs used in a program. Its **MIDI Sync. functionality** lets you synchronize the LFO speed to changes in the tempo.
- **Dmod (Dynamic Modulation) functionality** lets you control effect parameters in realtime. You can also use **MIDI Sync.** to synchronize the LFO speed or delay time to changes in the tempo.
- You can assign names not only to the song, but also to each pattern and track.
- Combination settings can be copied to a song.
- Sequencer data such as a song or cue list that you create can be saved in this instrument's native format, or transmitted as a MIDI data dump.
- A song you created can be converted into SMF (Standard MIDI File) data and saved on floppy disk. SMF songs can also be loaded.
- The PLAY/MUTE/REC and "SOLO On/Off" let you instantly play/mute any desired track.
- You can rewind or fast-forward while listening to the sound.
- The [LOCATE] key lets you move quickly to a desired location.

About song data

The following two types of song data can be loaded from floppy disk into this instrument's sequencer.

- **Song data saved in this instrument's own format**

This data is only for this instrument. However, it is partially compatible with the TRITON series (☞PG p.260). It cannot be loaded into other instruments.

Since the performance will be faithfully reproduced, including detailed settings of this instrument, you should use this format to save song data that is intended for playback on this instrument.

- **Standard MIDI Files**
  This format is not able to provide a totally faithful reproduction of the performance on this instrument in the way that this instrument's own format does (although there will be no problem for normal playback), but does provide compatibility with other SMF-compatible devices.

To load song data from floppy disk or save song data to floppy disk, use Disk mode. (☞p.40, p.93)

Memory Protect

Before you record a track or pattern, or edit the musical data, you will need to turn off the memory protect setting in Global mode. (☞p.38)

The Compare function

When you perform realtime recording, step recording, or track editing, this function allows you make before-and-after comparisons. (☞p.15)

If you continue editing when the [COMPARE] key LED is lit, the LED will go dark. That musical data will now be the data that is selected when the [COMPARE] key LED is dark.

Operations for which Compare is available

- **Recording to a track**
- **Track Edit**
  All commands except for the "Memory Status" and "Rename Track" utility menu commands of the SEQ 5.2: Track Edit page.
- **Recording to a pattern**
- **Pattern Edit**
  All commands except for the "Memory Status," "Rename Pattern," "FF/REW Speed," and "Rename Track" utility menu commands of the SEQ 5.1: RPPR, Pattern page.
- **Song Edit**
  SEQ 1.1-4.4 and 6.1–6.4 pages: utility menu commands "Delete Song" and "Copy From Song"
  SEQ 2.1: Cue List page: Page menu commands "Convert to Song" and "Copy Song"

In general, track and pattern event data can not be returned to its original state.

Comparing song parameters is possible only during song editing (when executing a utility menu command).

Operations for which Compare is not available

- Editing song parameters
- Utility menu commands other than those listed above (in Operations for which Compare is available)

About MIDI

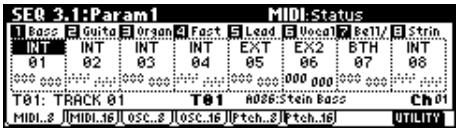
Synchronizing the sequencer with an external MIDI device

The record/playback tempo of this instrument's sequencer can be synchronized to an external MIDI device such as a sequencer or rhythm machine (PG ☞p.253).

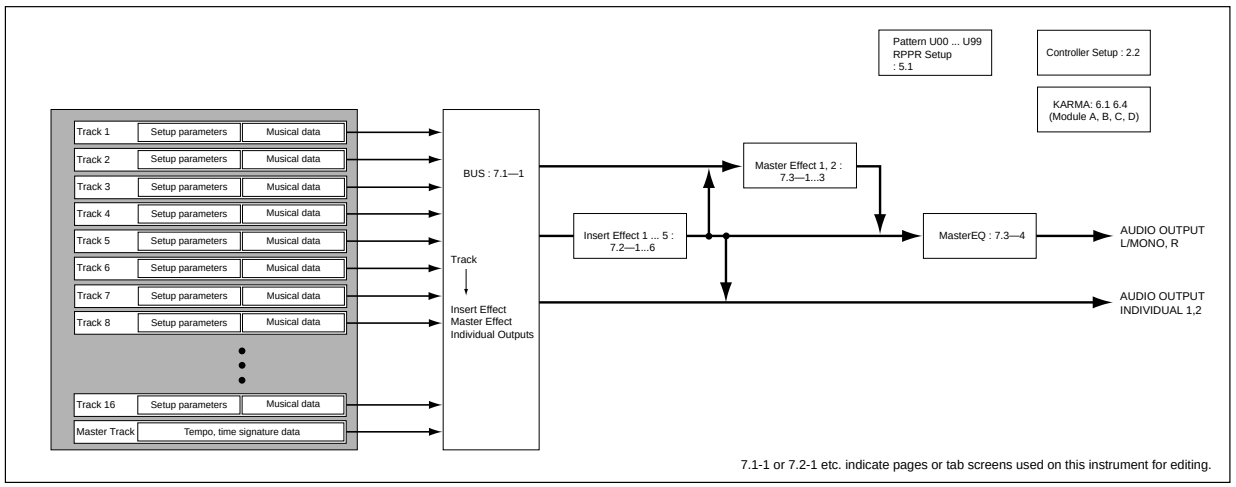
Track status "status"

You can make settings for this instrument's sequencer to specify whether it will sound the internal tone generator or an external tone generator.

When Track Status "**Status**" (3.1: Param1, MIDI..8, MIDI..16) is set to **INT**, operating this instrument's keyboard and controllers will sound and control this instrument's own tone generator.
When **Track Status** is set to **EXT**, **EX2** or **BTH**, operating this instrument's keyboard and controllers will sound and control the external tone generator. (The MIDI channel of the external tone generator must match the "MIDI Channel" of the track that is set to **EXT**, **EX2** or **BTH**.) With a setting of **BTH**, both the external tone generator and this instrument's tone generator will sound and be controlled.



If you wish to use the Sequencer mode of the instrument as a 16-track multi-timbral tone generator, select **INT** or **BTH**. (☞"Status" PG p.82)



The structure of Sequencer mode

The following describes the structure of Sequencer mode. (☞structural diagram: bottom of preceding page)

Songs

A song consists of tracks 1–16, a master track, song parameters such as the song name, effect, KARMA module and RPPR parameters, and 100 user patterns. A maximum of 200 such songs can be created on this instrument.

Tracks 1–16 and the master track each consist of **setup parameters** located at the start location, and **musical data** within the track.

Setup parameters	Musical data
Tracks 1–16	Tracks 1–16
Bank/Program No. *	Note On/Off
PLAY/MUTE/REC	Program Change (including Bank Select)
Pan *	Pitch Bend
Volume *	After Touch (Poly After)
Track Play Loop	Control Change
Loop Start Measure	Pattern No.
Loop End Measure	
Status	
MIDI Channel	
Bank Select (When Status=EX2)	
Force OSC Mode	
OSC Select	
Portamento *	
Transpose **	
Detune **	
Bend Range **	
OSC On/Off Ctrl	
Delay	
Use Program's Scale	
MIDI Filter	
Key Zone	
Velocity Zone	
Track Name	
IFX/Indiv.Out BUS Select	
Send1(MFX1) *	
Send2(MFX2) *	

Master track	
Time signature *	
Tempo *	

* When you change the setting during realtime-recording, this will be recorded as musical data. This allows the starting settings to be modified during the playback.

** Musical data (MIDI RPN data) can be used to change the starting settings during playback.

For details on control changes and RPN, refer to PG p.247.

Patterns

There are two types of patterns: preset patterns and user patterns.

- **Preset patterns:** Patterns suitable for drum tracks are preset in internal memory, and can be selected for any song.
- **User patterns:** Each song can have up to 100 patterns. When using a pattern in a different song, use the utility menu commands “Copy Pattern” or “Copy From Song” etc. to copy the pattern. The pattern length can be specified in units of a measure.

Each pattern consists of musical data for one track. It is not possible to create patterns that contain multiple tracks.
These patterns can be used as track musical data by being **placed in a track** (utility menu command “Put to Track”) or **copied to a track** (utility menu command “Copy to Track”). Alternatively, you can use a pattern with the **RPPR function of a song**.

As track musical data of a song

Phrases that are used repeatedly in a song can be recorded as patterns.
When you **place** (“Put to Track”) such a pattern in a song, the musical data of that pattern will be recalled and played when playback reaches the measure in which the pattern was played. When using a phrase or rhythm that occurs repeatedly, you can make more efficient use of memory by creating a pattern and placing it in multiple locations of the song, rather than actually recording the same data directly to each location of the song. However, be aware that if you modify the pattern itself, the playback will be affected for all measures at which the pattern had been placed.

If you **copy** (“Copy to Track”) a pattern to a track of the song, the playback data will be recorded on the track just as if you had recorded it onto the track in the first place. This will occupy more memory than if you use “Put to Track,” but you will be able to edit each location of data independently without affecting other locations, just as when editing normal track data.

The RPPR (Realtime Pattern Play/Recording) function:

For each song, you can assign patterns to each note of the keyboard, and play notes on the keyboard to playback or record patterns in realtime.

Cue List

A **cue list** allows you to playback multiple songs in succession. This instrument allows you to create 20 cue lists. Each cue list allows you to connect a maximum of 99 songs in any order, and to specify the number of times that each song will repeat.
Each unit in a cue list is called a "**step**," and each step contains a song number and the number of repeats.

For example, a song consisting of an introduction, melody A, melody B, bridge, solo backing, and ending could be created using a separate song for each unit. Then you could use a cue list to play the introduction twice, melody A four times, melody B four times, the break twice, melody A four times, ... etc. to create the completed song. When you will need to change the structure of the song, the cue list function provides an efficient way to do so.

The page menu command "Convert to Song" lets you convert the two or more songs in a cue list into a single song. This allows you to use a cue list to create the backing, then convert the cue list into a song and add solo phrases on unused tracks.

Playback

Playing a song (Play)

When you wish to playback song data on the sequencer, you must first record song data, or load or dump song data into this instrument.
To load song data from a floppy disk etc., use Disk mode.

① **In Sequencer mode, Select SEQ 1.1: Play/REC, Play/REC page.**

② **Use "Song Select" to select the desired song (☞p.62).**

③ **Press the [START/STOP] key.**

The song you selected in step ② will begin playing.

Pressing the [START/STOP] key in pages other than Sequencer mode SEQ 2.1: Cue List or SEQ 5.1: Pattern will start song playback. When the [START/STOP] key is pressed in SEQ 2.1: Cue List, the currently selected cue list will begin playing. When the [START/STOP] key is pressed in SEQ 5.1: Pattern, the currently selected pattern will begin playing.

④ **If you press the [START/STOP] key during playback, the playback will stop.**

Press the [START/STOP] key once again, and playback will resume from where it had been stopped.

- **Pressing the [LOCATE] key will move to the specified location.**
- **Pressing the [PAUSE] key will resume playback.**

Press [PAUSE] once again, and playback will resume.

- **Pressing the [◄◄ REW], [FF ►►] keys will rewind or fast-forward.**
These can be used during playback or when paused. The speed of rewind and fast-forward is set by the utility menu command "FF/REW Speed".

Mute/Solo function

You can use the "**PLAY/MUTE/REC"** and "**SOLO On/Off"** in the Program page of SEQ 1.1: Play/REC to hear or mute a desired individual track 1–16. For example, this can be used when you wish to record new tracks while listening only to the rhythm section of the previously recorded tracks.

You can use the utility menu command "Solo Selected Track" to hear only the currently selected tracks. It is convenient to use this while setting track parameters or effect settings (☞PG p.71).

Here's how to hear the result of the "PLAY/MUTE/REC" and "SOLO On/Off" settings. Make sure that one of the SEQ 1.1: Play/Rec pages is selected.

① **Press the [START/STOP] key to playback the song.**

② **Press the [F2]"Prog. 8 ") key.**

③ **Select the track 1 "PLAY/MUTE/REC, " and press the VALUE [▲] key once.**

The display will change to "**MUTE**," and the playback of track 1 will no longer be heard. In this way, the "**mute**" function allows you to silence a specified track.

SEQ 1.1:Play/REC
Program:PLAY/MUTE/REC
001:01.000
Meter: 4 / 4
Reso:Hi
♩=120:Manu
1 Bass 2 Guita 3 Organ 4 Fast 5 Lead 6 Vocal 7 Bell/ 8 Strin
A086 A021 A007 A000 A012 -027 A031 A003
MUTE PLAY PLAY PLAY PLAY PLAY PLAY PLAY
T01: TRACK 01
T01
A086:Stein Bass
Ch 01
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

Select the track 2 "PLAY/MUTE/REC" and press the VALUE [▲] key once.

The display will change, and the playback of track 2 will also be muted.

SEQ 1.1:Play/REC
Program:PLAY/MUTE/REC
001:01.000
Meter: 4 / 4
Reso:Hi
♩=120:Manu
1 Bass 2 Guita 3 Organ 4 Fast 5 Lead 6 Vocal 7 Bell/ 8 Strin
A086 A021 A007 A000 A012 -027 A031 A003
MUTE MUTE PLAY PLAY PLAY PLAY PLAY PLAY
T01: TRACK 01
T02
A021:Chorus E.Guitar
Ch 02
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

To cancel muting, press the "**PLAY/MUTE/REC" and press the VALUE [▼] key**.

④ **Next select the track 1 "SOLO" and press the VALUE [▲] key once.**

The display will change, and now only the track 1 playback will be heard. In this way, the **Solo** function lets you hear only a specified track.

note If both Mute and Solo are used, the Solo function will be given priority.)

SEQ 1.1:Play/REC Program:SOLO On/Off
001:01.000 Meter: 4 / 4 Reso:Hi ♩=120 :Manu
1 Bass 2 Guita 3 Organ 4 Fast 5 Lead 6 Vocal 7 Bell/ 8 Strin
A086 A021 A007 A000 A012 -027 A031 A003
MUTE S MUTE PLAY PLAY PLAY PLAY PLAY PLAY
T01: TRACK 01 T01 A086:Stein Bass Ch 01
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

Press the track 2 "SOLO" and press the VALUE [▲] key once.

The display will change, and only the playback of tracks 1 and 2 will be heard.

SEQ 1.1:Play/REC Program:SOLO On/Off
001:01.000 Meter: 4 / 4 Reso:Hi ♩=120 :Manu
1 Bass 2 Guita 3 Organ 4 Fast 5 Lead 6 Vocal 7 Bell/ 8 Strin
A086 A021 A007 A000 A012 -027 A031 A003
MUTE S MUTE S PLAY PLAY PLAY PLAY PLAY PLAY
T01: TRACK 01 T02 A021:Chorus E.Guitar Ch 02
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

To turn off the Solo function, select the "SOLO" and press the VALUE [▼] key once again. Select the track 1 and 2 "SOLO" and press the VALUE [▼] key once each.

The display will change, and the playback of tracks 1 and 2 will be muted. If the Solo function is turned off for all tracks, playback will be according to the "**PLAY/MUTE/REC"** settings.

[LOCATE] settings

These settings are made by the utility menu command "Set Location." You can also set the location during playback by holding down the [ENTER] key and pressing the [LOCATE] key (☞ PG p.73).
Normally you will set this to **001:01.000**. You will return to the beginning of the song.
When you select a song, the [LOCATE] setting will automatically be set to 001:01.000.

Other playback

In Sequencer mode, you can also use playback functions such as Loop All Tracks, play Patterns (using the RPPR function), Track Play Loop, and Cue List.

Recording

The process by which your playing on this instrument's keyboard and controllers is captured on the tracks or patterns of a song as data is called "**recording**."

Recording on a track, and recording on a pattern

Recording on a track

There are two ways to record on a track: **realtime recording** and **step recording**. You can choose from a further six types of realtime recording.

In addition, you can use **event editing** to modify data that has been recorded or to insert data, and use **track editing** operations such as **Create Control Data** to insert data such as bend, after touch, and control changes.

Recording on a pattern

There are two ways to record on a pattern: **realtime recording** and **step recording**. For realtime recording, only one recording type (loop) is available.

In addition, you can use **event edit** operations to modify data that has been recorded or to insert data.

The utility menu command "Get From Track" can be used to take musical data from a desired area of a track, and use it as the musical data for a pattern. Conversely, the utility menu commands "Put to Track" and "Copy to Track" can be used to place or to copy the musical data of a pattern in a track.

Realtime recording

This is a method of recording in which your playing on the keyboard and your operations of controllers such as the joystick are recorded in realtime.
This method of recording is normally used one track at a time, and is called **single track recording**.
As an alternative, **multitrack recording** allows you to simultaneously record multiple channels of data onto multiple tracks. This is the method you will use when using the RPPR function and KARMA function to record multiple tracks of musical data at once, or when you playback existing sequence data on an external sequencer and record it onto this instrument's sequencer in realtime (☞p.64, p.72).

- **Overwrite**
  With this method, the musical data previously on the track is overwritten by the newly recorded data. When you perform overwrite recording on a previously-recorded track, its musical data will be replaced by the newly recorded data.
  Normally you will use this method to record, and then modify the results by using other types of realtime recording or event editing.

- **Overdub**
  With this method, the newly recorded musical data is added to the existing data.
  When you perform overdub recording on a previously-recorded track, the newly recorded data will be added to the previously-recorded data.
  It is best to select this method when you wish to add control data, or to record tempo data onto the master track. This lets you record data without erasing the existing data.
- **Manual punch-in**
  With this method, the musical data previously on the track is overwritten by the newly recorded data. While the song is playing, you can press the [REC/WRITE] key or a connected pedal switch at the desired location to start or stop recording.
- **Auto punch-in**
  With this method, the musical data previously on the track is overwritten by the newly recorded data. First you must specify the area that will be re-recorded. Then playback the song, and recording will occur automatically at the specified area.
- **Loop All Tracks**
  This method lets you continue recording as you add musical data.
  Recording will occur repeatedly over the specified area.
- **Multi**
  Multitrack recording allows you to simultaneously record onto multiple tracks, each with a different channel. This method can be used with overwrite, overdub, manual punch-in, and auto punch-in recording.

Step recording

This is a method of recording where you specify the note timing, note length, and velocity etc. in the LCD screen, and use the keyboard to input the pitches. Only note-on/off data can be recorded with this method.

Event Edit and Create Control Data

Note data is the only type of data that can be recorded in step recording. However as ways to record other types of data outside of realtime, you can use the Event Edit and Create Control Data functions.

Event Edit is intended as a way to edit previously-recorded data, but you can also use it to modify program numbers or insert control changes.

Create Control Data is a function that lets you create and insert controller data that changes smoothly between two specified values over the specified length of time. This is used to input bend, after touch, and control change data etc.

Realtime recording on a track

Preparations for recording

Before you begin recording, you need to make track settings.

Be sure to turn off the Global mode protect setting (☞p.38).

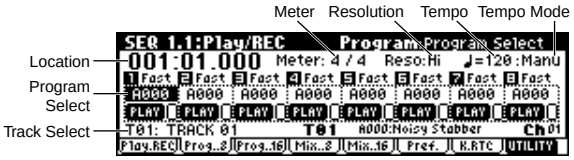
① In Sequencer mode, select SEQ 1.1: Play/REC, Play/REC page.

② In "Song Select," select the song that you wish to record.

Select "Song Select," and use numeric keys [0]–[9] to enter the song number, and press the [ENTER] key. If you select a song number that has not yet been recorded, the Create New Song dialog box will appear. Press the [F8] ("OK") key.

To set the song name, use the utility menu command "Rename Song." (☞p.39 "Assigning a name (Rename)").

③ Select SEQ 1.1: Play/REC, program page.



④ Use "Track Select" to select the track that you wish to record.

⑤ Use "Program Select" to select the program for the track you wish to record.

Use the Prog..8 tab to select a program for tracks 1–8, and the Prog..16 tab to select a program for tracks 9–16.
You may find it convenient to use the page menu command "Load Template Song" and use the settings from a template song (☞p.66).

If necessary, select the Mixer page and set the pan and volume. The status and MIDI channel of each track are set by SEQ 3.1: Param 1, MIDI page "Status" and "MIDI Channel."

note It is a good idea to set tracks **1–16** to "MIDI Channel" 1–16 respectively. (This is the default.) Tracks that are set to the same MIDI channel will sound simultaneously when either track is recorded or played.
Make sure that "**Status**" is **INT** or **BTH**. (☞p.58)

⑥ **Press the [REC/WRITE] key.**

This instrument will enter record-standby mode. The "**PLAY/MUTE/REC"** of the track(s) you specified in step ④ will change from **PLAY** to **REC**.

The metronome will begin sounding when you press the [REC/WRITE] key. If it does not sound, go to the SEQ 1.1: Play/REC, Preference page and set the Metronome parameter.

note The default values are **"Metronome Sound" REC Only, "Metro. Bus Select" L/R, "Level" 127, "Precount" 2**. With these settings, there will be a two-measure pre-count, the metronome sound will be output at the maximum level from the L/MONO and R jacks (and from the headphones), and will be heard only during recording.

⑦ **Set "Tempo Mode" to Manu (manual), and as you listen to the metronome, use "Tempo (♩)" to set the tempo.**

⑧ **Set "Meter" to the desired time signature.**

⑨ **If necessary, set "Reso" (Resolution) to the desired realtime quantize setting (☞p.66).**

This completes preparations for recording. The recording procedure will depend on the "Overwrite" – "Multi (multitrack recording)" setting explained below. Press the [REC/WRITE] key to temporarily cancel record-standby mode, and try out the various recording methods described below.

The time signature will be recorded when you actually begin recording. If you cancel recording during recording-standby or during the precount, the time signature specified in ⑧ will not be recorded.

Overwrite

Use this method when recording for the first time.

① **Make the necessary settings in "Preparations for recording."**

② **In theSEQ 1.1: Play/REC Preferences page REC Setup "Recording Set Mode," select Over Write.**

③ **In "Location," specify the location at which you wish to begin recording.**

④ **Press the [REC/WRITE] key, and then press the [START/STOP] key.**

If "Metronome Setup" has the default settings (refer to "Preparations for recording" step ⑥), the metronome will sound for a two-measure pre-count, and then recording will begin.
Play the keyboard and move controllers such as the joystick to record your performance.

⑤ **When you finish playing, press the [START/STOP] key.**

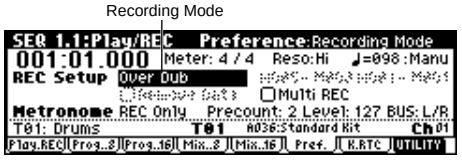
Recording will end, and the location will return to the point at which you begin recording.

At this time if you press the [PAUSE] key instead of the [START/STOP] key, recording will pause. When you press the [PAUSE] once again, recording will resume. When you are finished, press the [START/STOP] key to stop recording.

Overdub

① **Make the necessary settings in "Preparations for recording."**

② **In the SEQ 1.1: Play/REC Preferences page REC Setup "Recording Mode," select Over Dub.**

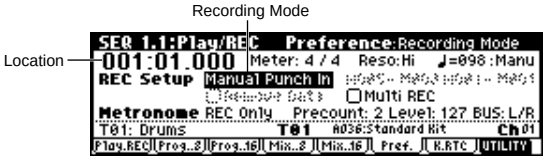


③ **For the rest of the procedure, refer to steps ③–⑤ of "Overwrite".**

Manual punch-in

① **Make the necessary settings in "Preparations for recording."**

② **In the SEQ 1.1: Play/REC Preferences page REC Setup "Recording Mode select Manual Punch In.**



③ **In "Location," specify a location several measures earlier than the point at which you wish to begin recording.**

④ **Press the [START/STOP] key.**

Playback will begin.

⑤ **At the point at which you wish to begin recording, press the [REC/WRITE] key.**

Recording will begin.
Play the keyboard and operate controllers such as the joystick to record your performance.

⑥ **When you finish recording, press the [REC/WRITE] key.**

Recording will end (playback will continue).

note Instead of pressing the [REC/WRITE] switch in steps ⑤ and ⑥, you can use a foot switch connected to the [ASSIGNABLE SWITCH] jack. Set the Global 6.1: Controller, Foot page "**Foot Switch Assign**" to **Song Punch In/Out (☞p.101)**.

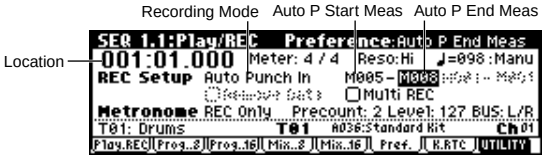
⑦ **Press the [START/STOP] key.**

Playback will stop, and you will return to the location that you specified in step ③.

Auto punch-in

① **Make the necessary settings in "Preparations for recording."**

② **In the SEQ 1.1: Play/REC Preferences page REC Setup "Recording Mode," select Auto Punch In.**



③ **In "Auto P Start Meas, "Auto P End Meas" specify the area that you wish to record.**

For example if you specify **M005–M008**, recording will occur only from measure 5 to measure 8.

④ **In "Location," specify a location several measures earlier than the point at which you wish to begin recording.**

⑤ **Press the [REC/WRITE] key, and then press the [START/STOP] key.**

Playback will begin.
When you reach the starting location you specified in step ③, recording will begin. Play the keyboard and operate controllers such as the joystick to record your performance. When you reach the ending location you specified in step ③, recording will end. (Playback will continue.)

⑥ **Press the [START/STOP] key.**

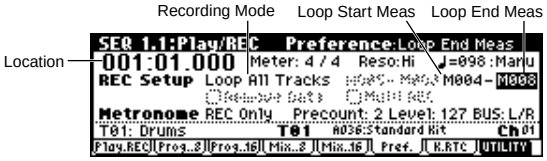
Playback will stop, and you will return to the location you specified in step ④.

Loop All Tracks

① **Make the necessary settings in "Preparations for recording."**

② **In the SEQ 1.1: Play/REC Preferences page REC Setup "Recording Mode," select Loop All Tracks.**

However since multitrack recording is not possible, the "**MultiREC**" check box must be **unchecked**. (If "**Multi REC**" is checked, it will not be possible to select **Loop All Tracks** as the "**Recording Mode**".)



③ **In "Loop Start Meas, "Loop End Meas" specify the area that you wish to record.**

For example if you specify **M004–M008**, recording will occur repeatedly (as a loop) from measure 4 to measure 8.

④ **In "Location," specify a location several measures earlier than the point at which you wish to begin recording.**

⑤ **Press the [REC/WRITE] key, and then press the [START/STOP] key.**

Playback will begin. When you reach the starting location you specified in step ③, recording will begin. Play the keyboard and operate controllers such as the joystick to record your performance.

When you reach the ending location you specified in step ③, you will return to the starting location, and continue recording.
The musical data that is loop-recorded will be added to the previously-recorded data.

⑥ **During loop recording, you can press the [REC/WRITE] key or check the "Remove Data" check box to erase the specified musical data.**

If you press the [REC/WRITE] key during loop recording, all musical will be removed from the currently selected track as long as you continue pressing the key.
By **checking** the "**Remove Data**" check box you can erase only the specified data. During loop recording, press the note that you wish to delete, and only the data of that note number will be deleted from the keyboard as long as you continue pressing that note. Similarly, bender data will be deleted as long as you tilt the joystick in the X (horizontal) direction, and after touch data will be deleted as long as you apply pressure to the keyboard.
When you are once again ready to record musical data, **uncheck** the "Remove Data" check box.

⑦ **Press the [START/STOP] key.**

Playback will end, and you will return to the recording start location that you specified in step ④.

If Loop All Tracks is selected, normal playback will be looped as well.

Multi (multitrack recording)

Multitrack recording can be used with **overwrite**, **overdub**, **manual punch-in**, or **auto punch-in** recording methods. Here we will explain the procedure for overwrite recording, which is the most commonly used method. Multitrack recording will record multiple tracks at once.

When simultaneously recording multiple tracks of MIDI data from an external sequencer, etc.

① **Set the MIDI Clock (Global 2.1: MIDI "MIDI Clock") to External, so that this instrument will synchronize to the MIDI clock of the external sequencer (☞PG p.137).**

② **Make settings as described in "Preparations for recording" (☞p.62).**

MIDI data of the corresponding MIDI channel will be recorded on each track whose "PLAY/MUTE/REC" button is set to **REC**. (This has no relation to the settings in "Preparations for recording" step ④.) When using multitrack recording, refer also to "Multi Rec" (☞PG p.76).

③ **In the SEQ 1.1: Play/REC, Preference page REC Setup "Recording Mode," select Over Write.**

④ **Check the "Multi REC" check box.**

Recording Mode
Multi REC
Location
SEQ 1.1:Play/REC Preference:Multi REC
001:01.000 Meter: 4 / 4 Reso:Hi ♩=098 :Manu
REC Setup Over Write
Multi REC
Metronome REC Only Precount: 2 Level: 127 BUS: L/R
T01: Drums T01 A036:Standard Kit Ch 01
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

⑤ **Select the SEQ 1.1: Play/REC, Program page.**

The "**PLAY/MUTE/REC**" display of all tracks will read **REC**. Press the "**PLAY/MUTE/REC**" to change **PLAY** to **MUTE** for any tracks that you do not wish to record.

SEQ 1.1:Play/REC Program:PLAY/MUTE/REC
001:01.000 Meter: 4 / 4 Reso:Hi ♩=098 :Manu
1 Drum 2 Bass 3 Keyb 4 Guita 5 Slow 6 Guita 7 Guita 8 Strin
A036 A118 A033 B005 A008 B117 A117 A003
REC REC REC REC REC PLAY PLAY MUTE
T01: Drums T08 A003:Legato Strings Ch 08
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

⑥ **In SEQ 3.1 Param1 MIDI page "MIDI Channel," specify the MIDI channel for each track.**

The specified channel of musical data will be recorded on that track. It is a good idea to set tracks 1–16 to MIDI channels 1–16. (This is the default setting.) Also make sure that "Status" is set either to **INT** or **BTH**.

⑦ **In "Location," specify the location at which recording will begin.**

⑧ **Press the [REC/WRITE] key.**

You will be in recording-standby condition.

⑨ **Start the external sequencer.**

This instrument's sequencer will receive the MIDI Start message transmitted by the external sequencer, and will automatically begin recording.

⑩ **When the song ends, stop the external sequencer.**

This instrument's sequencer will receive the MIDI Stop message transmitted by the external sequencer, and will automatically stop recording. You can also press the [START/STOP] key on this instrument itself to stop recording.

Using KARMA to record multiple tracks simultaneously

A multi-track performance using the KARMA function can be recorded simultaneously using multi recording. For the procedure, refer to "KARMA function settings for Sequencer mode" (☞p.85)

When simultaneously recording multiple tracks using the RPPR function

You can use multitrack recording to simultaneously record the playback of multiple tracks that are being triggered by the RPPR function. For the procedure, refer to "Realtime recording an RPPR performance" (☞p.72).

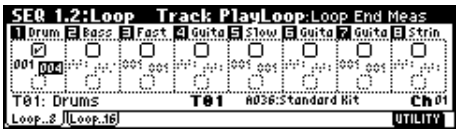
Using the Track Play Loop function to record

The **Track Play Loop function** lets you specify a range of measures over which each track 1–16 will loop repeatedly during playback.
As an example, we will describe how you can use the Track Play Loop function to efficiently record tracks. This is a convenient way to create a basic rhythm section.
Here we will explain the procedure of using the Track Play Loop function to playback a drum track and a bass track, while you record synth phrases.

① **Record a drum phrase on track 1.**

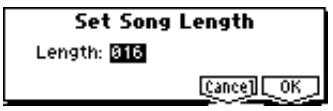
Select a drum program for track 1. Set "Track Select" to **Track 01**, and record a rhythm pattern of four measures or more in realtime. Alternatively, you can place or copy one of the preset patterns.

② **When you are finished recording, press the SEQ 1.2: Loop, Loop..8 tab. For track 1, check "Loop On." Set "Loop Start Meas" to 001, and "Loop End Meas" to 004.**


SEQ 1.2:Loop Track PlayLoop:Loop End Meas
1 Drum 2 Bass 3 Fast 4 Guita 5 Slow 6 Guita 7 Guita 8 Strin
001 004
T01: Drums T01 A036:Standard Kit Ch 01
Loop..8 Loop.16 UTILITY

Press the [START/STOP] key to playback, and track 1 will continue repeating measures 1–4.

note With the default settings, the song length is 64 measures. In this case, the loop will stop at 64 measures. If you wish to change the number of measures, use the SEQ 5.2: Track Edit utility menu command "Set Song Length." (If you continue recording beyond the specified number of measures, the song length will be extended to the measure at which recording ended.)



③ **Record a bass phrase on track 2.**

Select a bass program for track 2. In "**Track Select**," chose **Track 02**, and use realtime recording.

During recording, track 1 will continue repeating measures 1–4. While listening to the drum phrase, record (for example) an eight-measure bass phrase.

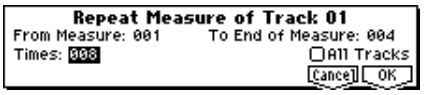
④ **When you are finished recording, check "Loop On" for track 2 also, as you did in step ②. Set "Loop Start Meas" to 001, and "Loop End Meas" to 008.**

⑤ **Next we will record synth brass riffs on track 3.**

Select a synth brass program for track 3. Use "**Track Select**" to select **Track 03**, and use realtime recording. During recording, track 1 will continue repeating measures 1–4, and track 2 will continue repeating measures 1–8.

note By **checking** the SEQ 1.2: Loop, Track PlayLoop "**Play Intro**" setting, you can case playback to loop between "Loop Start Meas" and "Loop End Meas" after the measures preceding "Loop Start Meas" have been played once. For example, you could make a drum track play an intro fill-in once, and then continue repeating the specified region. (☞PG p.77)

note Track Play Loop will continue repeating for the length of the song. If you wish to specify the number of times that playback will repeat, or to place different musical data (drum fill-in, etc.) in the track, the song will have to be expanded as musical data. To specify the number of times that playback will repeat, execute the SEQ 5.2: Track Edit utility menu command "Repeat Measure."



In the above example, musical events (32 measures of data) will be created out of measures 1–4 which were being repeatedly played as a loop by track 1.

Template Song and Preset Pattern

This instrument contains sixteen template songs. These provide program and effect settings etc. that are suitable for various styles of music. These settings can be loaded into a song. You can copy preset drum patterns when you load this data, which lets you create songs more efficiently. You can take advantage of template songs and preset patterns in "Preparations for recording." For details on loading, refer to "Load Template Song" (☞PG p.72).
You can also make changes to a template song that you loaded, and save frequently used settings as a User Template Song.
For the saving procedure, refer to "Save Template Song" (☞PG p.73).

Musical data will not be saved in the user template song.

Copying combination sounds to multiple tracks

You can copy a combination sound to multiple tracks to record it.

For the copy procedure, refer to "Copy From Combination" (☞PG p.72).

If you wish to use the KARMA function settings of a copied combination and record the KARMA function performance in realtime, use "Track Select" to choose a track that uses the global MIDI channel. When you play the keyboard, it will sound in the same way as for the combination. When you perform multitrack recording, the multiple channels that are sounded by the KARMA function will be recorded in the same way. However, in the case of multi-track recording when multiple tracks are set to the same MIDI channel, this musical data will be combined.

Quantize

This instrument provides a **realtime quantize "Reso"** (**resolution**) setting (see step ⑨, ☞p.63) that lets you correct the timing of musical data as it is being recorded, and a **"Quantize"** function (a SEQ 5.2: Track Edit utility menu command) that lets you correct the timing of musical data that has already been input.

For example, suppose that during realtime recording you intended to play eighth notes, but that the rhythm was slightly inaccurate, as shown in figure 1 below. In such cases, you could set "**Reso**" (Resolution) to ♪, so that when you realtime-record, the notes will automatically be adjusted to the correct timing as shown in figure 2.

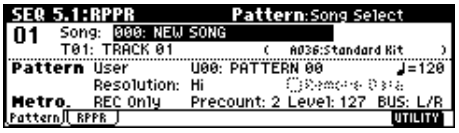
Alternatively, if data that was recorded without using realtime quantize plays back as shown in figure 1, you could select the SEQ 5.2: Track Edit utility menu command "**Quantize**," set its "Resolution" parameter to ♪, and press the [F8] ("OK") key to correct the timing as shown in figure 2.

Realtime recording to a pattern

Before you begin recording a pattern, turn off the memory protect setting in Global mode (☞p.38).

When realtime-recording a pattern, a pattern of the specified number of measures will playback repeatedly, allowing you to continue adding musical data to it.

① **In Sequencer mode SEQ 5.1: RPPR, select the Pattern page.**



② **Use "Track Select" to select the track.**

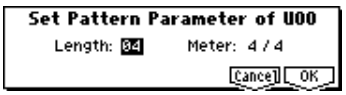
The pattern will sound with the program and settings of that track.

③ **Set "Pattern Bank" to User, and set "Pattern Select" to the user pattern number U00–U99 that you wish to record.**

④ **If necessary, set "Metronome" and "Resolution".**

⑤ **Select the utility menu command "Pattern Param.".**

A dialog box will appear.



⑥ **In "Length," specify the length of the pattern. In "Meter," specify the time signature.**

⑦ **Press the [F8] ("OK").**

This completes preparations for recording.

⑧ **Press the [REC/WRITE] key, and then press the [START/STOP] key.**

Pattern recording will begin. Play the keyboard and operate the joystick or other controllers to record your performance.

If the KARMA function has been set to operate on the track that is selected by "Track Select," the playback of the KARMA function will be recorded in the pattern. For details on KARMA function settings, refer to PG p.85 and PG p.103.

note If you want the KARMA to start at the moment that recording begins, turn on KARMA [ON/OFF], hold down a chord on the keyboard, and then start recording. The KARMA will start at the moment that recording begins, and will be recorded.

When you record to the end of the pattern, you will return to the beginning of the pattern and continue recording.
The musical data that is recorded will be added to the previously-recorded data.

⑨ **During pattern recording, you can erase unwanted musical data by pressing the [REC/WRITE] key, or by checking the "Remove Data" check box.**

For details refer to "Loop All Tracks," step ⑥ (☞p.64).

⑩ **Press the [START/STOP] key.**

Pattern recording will end.
To use a user pattern that was recorded in this way (or a preset pattern), you can execute "**Put to Track**" to assign the pattern to a track (☞PG p.92).

A pattern can also be used in the SEQ 5.1: RPPR, Setup page (☞p.70, PG p.93)

Although you may operate controllers etc. to record control data in a pattern, you should restore the control data to its normal value within the pattern. If you fail to restore the normal value, unnecessary control data may remain in a "stuck" position when you place the pattern in a song or use the RPPR function to play the pattern. However, the following control data will be automatically reset to the following values when the song or RPPR function finishes playing the pattern, or when playback is halted.

Controller	Reset value
Modulation 1 (CC#01)	00 (zero)
Modulation 2 (CC#02)	00 (zero)
Expression (CC#11)	127 (max)
Ribbon controller (CC#16)	64 (center)
Damper switch (CC#64)	00 (zero)
Sostenuto switch (CC#66)	00 (zero)
Soft switch (CC#67)	00 (zero)
EG sustain level (CC#70)	64 (center)
Resonance level (CC#71)	64 (center)
EG release time (CC#72)	64 (center)
EG attack time (CC#73)	64 (center)
Low pass filter cutoff (CC#74)	64 (center)
EG decay time (CC#75)	64 (center)
LFO1 speed (CC#76)	64 (center)
LFO1 depth (pitch) (CC#77)	64 (center)
LFO1 delay (CC#78)	64 (center)
Filter EG intensity (CC#79)	64 (center)
SW1 modulation (CC#80)	00 (zero)
SW2 modulation (CC#81)	00 (zero)
Channel after touch	00 (zero)
Pitch bender	00 (zero)

Step recording on a track or pattern

To step record on a track, use the SEQ 5.2: Track Edit, Track Edit, page utility menu command "Step Recording." To step record on a pattern, use the SEQ 5.1: RPPR, Pattern page, utility menu command "Step Recording."

For details on step recording on a track or pattern, refer to PG p.91, 95.

Editing

Track editing

Track editing is performed using the utility menu commands of SEQ 5.2: Track Edit page.

Event Edit allows you to modify previously-recorded data or to insert new data. **Track Edit** commands such as **Create Control Data** allow you to insert bend, after touch, and control change data, and to **delete**, **copy**, **insert** and **move** tracks (☞ PG p.95).

Pattern editing

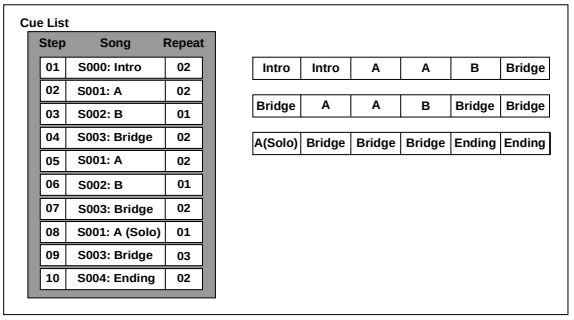
Using the utility menu commands of the SEQ 5.1: RPPR, Pattern page, you can use **event editing** to modify the recorded data or insert new data, and execute commands to **delete**, **copy**, or **bounce** patterns (☞PG p.91).

Song editing

The utility menu commands allow you to **rename**, **delete**, and **copy** songs (☞PG p.71).

Creating and playing a Cue List

A **cue list** allows you to play multiple songs in succession. For example you can create a separate song for each portion (introduction, melody A, melody B, bridge, and ending) of a composition, and use the cue list to specify the order of each portion and the number of times that it will be repeated to complete the song. You can also use this as a jukebox function that will playback completed songs in the order you specify.


Cue List
Step Song Repeat
01 S000: Intro 02
02 S001: A 02
03 S002: B 01
04 S003: Bridge 02
05 S001: A 02
06 S002: B 01
07 S003: Bridge 02
08 S001: A (Solo) 01
09 S003: Bridge 03
10 S004: Ending 02
Intro Intro A A B Bridge
Bridge A A B Bridge Bridge
A(Solo) Bridge Bridge Bridge Ending Ending

As an example, we will explain the procedure for creating individual songs for the introduction, melody A, melody B, bridge, and ending, and then using a cue list to bring these songs together to form a complete song.

① **Create separate songs for the introduction, melody A, melody B, bridge, and ending.**

S000: Intro (4 measures)
S001: A (8 measures)
S002: B (8 measures)
S003: Bridge (8 measures)
S004: Ending (4 measures)

* In Step 08, S001: A (Solo) is an example of how you can select S001:A, and then after the cue list is complete, use the utility menu command "Convert to Song" to convert the cue list to a song, and add a solo performance to the vacant track.

Record the song with the above structure.

When doing so, first create the program settings, track settings, and effect settings for one song (e.g., S000), and then use the SEQ 1.1 utility menu command "Copy From Song" to copy these settings to the other songs (S001–S004).

Keep the track settings unified as far as possible. After the cue list is completed, you can convert it into a song. When this is done, the track settings of each song (program, pan, volume etc.) will be converted into musical data and reproduced, but unless the MIDI channel settings are the same, the resulting song may not be the same as the cue list playback.

② **Select SEQ 2.1: Cue List.**

With the default settings, song **S000** will be selected for "Step" **01**, and **End** will be selected for "Step" **02**.

③ **Press the [F7] ("EDIT") key**

When you press this key, the LCD screen "EDIT" indication will change to "DONE," and you will be able to insert or delete songs into or from the cue list.

④ **Press the [F4] ("Insert") key.**

The step will be added.

⑤ **Select a song for "Step".**

⑥ **In "Rep(Repeat)," specify the number of times that the song at each step will repeat.**

⑦ **If necessary, check the " FX" check box.**

This specifies whether or not the effect settings will also be changed when the song at that step is played. If you want the effect settings to change, check this box. For this example, **check "Step" 01**.

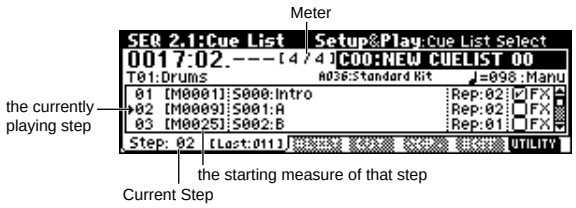
⑧ **Press the [F4] ("Insert") key to add the next step.**

Refer to the table below, and add the appropriate steps.
If you press [F5] ("**CUT**"), the selected step will be deleted. If you press the [F4] ("**INSERT**") key, that step will be inserted. If you press the [F6] ("**COPY**") key, the selected step will be copied. If you press the [F4] ("**INSERT**") key, that step will be inserted.

Step	song	Rep (Repeat)	FX
01	S000:Intro	02	Check
02	S001:A	02	—
03	S002:B	01	—
04	S003:Bridge	02	—
05	S001:A	02	—
06	S002:B	01	—
07	S003:Bridge	02	—
08	S001:A	01	—
09	S003:Bridge	03	—
10	S004:Ending	02	—
11	End	—	—

Depending on the effect settings, a certain amount of time may be required for the effects to be switched. If this occurs, the playback will not be smoothly connected from song to song.
To ensure a smooth transition from song to song, check "FX" for "Step" 01. Do not check "FX" for the remaining steps. This way, the effect settings will be made before playback begins, and there will be no time lag when cue list playback is started or when switching from song to song. Although it will not be possible to change effect types within the cue list, you can use dynamic modulation or MIDI control changes such as Effect Control to control the effects within the cue list, for example applying reverb more deeply on certain songs, or raising the LFO speed for a specific song. We recommend this method if you will be using a cue list to construct the song. When you execute the utility menu command "Convert to Song", the effect settings of the "Step" 01 song will be specified for the song that results from the conversion.

Even if "FX" is not checked, there may be cases in which a time lag in the transition between songs, depending on the musical data of the song. Also, there may be cases in which the musical data is not played at the correct timing at the transition between songs. If this occurs, you can edit the musical data of the song, or convert the cue list to a song for playback. If you use "Convert to Song" to convert the cue list to a song, there will be no time lag during playback at the transition between songs, and the musical data will be played at the correct timing.


Meter
SEQ 2.1:Cue List Setup&Play:Cue List Select
0017:02.---[4/4]C00:NEW CUELIST 00
T01:Drums A036:Standard Kit ♩=098:Manu
the currently playing step
01 [M0001] S000:Intro Rep:02 ☑FX
▶02 [M0009] S001:A Rep:02 ☐FX
03 [M0025] S002:B Rep:01 ☐FX
Step: 02 [Last:011] UTILITY
the starting measure of that step
Current Step

- "**Step**": The arrow will indicate the currently playing step. ▶ indicates the currently selected "Step." If you set "**Current Step**" while stopped, the display will change.
- "**M*****": Indicates the starting measure of that step.
- "**Meter**": Indicates the currently-playing time signature. This cannot be changed.

⑨ **This completes the settings. Press the [START/STOP] key to begin playback from the step specified in "Current Step."**

- The name of a cue list can be specified by the "**Rename Cue List**" page menu command.
- If you wish to use the tempo that is specified by the song of each step, set "Tempo Mode" to **Auto**. If this is set to **Manu** (**Manual**), playback will use the tempo that you specify in "♩=".
- If you specify **Continue to Step01** for the last step, the cue list will continue playing back repeatedly.
- If you set "Rep(Repeat)" to **FS**, a foot switch connected to the [ASSIGNABLE SWITCH] jack will control the timing at which the song stops repeating. Set "Foot SW Assign" (Global 6.1: Controller, Foot page) to **Cue Repeat Control**.
- When you play the keyboard, the program of the track selected by "Track Select" will sound. If a different program is selected for each song, the

program specified for the currently playing song will sound.

note Cue list editing will automatically end if you operate the [START/STOP] key, etc. (DONE → EDIT)

Converting a cue list to a song

Although it is not possible to record additional material onto tracks in a cue list, you can convert a cue list to a song, and then record solos etc. to vacant tracks. You will also need to convert a cue list to a song if you wish to save it on a floppy disk as SMF data.

○ **Select the utility menu command "Convert to Song".**

The Convert Cue List dialog box will appear. In "**To**," specify the destination song number for the converted data. The cue list name will automatically be assigned as the song name of the converted data. (For details and cautions regarding "Convert to Song," refer to PG p.80.)

If you wish to select a new song as the convert destination, use the numeric keys [0]–[9] to specify the song number, and then press the [ENTER] key. It is not necessary to set "Set Length" in the dialog box that appears at this time. The number of measures in the converted song will be used. Press the [F8] ("OK") key, and the Convert Cue List dialog box will appear.

RPPR (Realtime Pattern Play/ Recording) function

For details on the **RPPR** function, refer to "Playing with the RPPR function" (☞p.32). Here we will give an example of how to make RPPR settings, and how to playback and record.

RPPR settings

RPPR settings are made individually for each song. To use RPPR playback, check the "RPPR" check box. If this is checked, the RPPR function will be turned on, and playing the keyboard will cause patterns to playback according to the RPPR settings. If the "RPPR" check box is not checked, the song will play normally even if RPPR settings have been made.

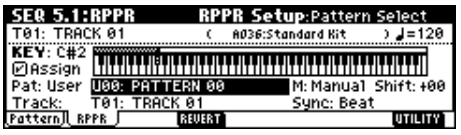
SEQ 1.1:Play/REC Play/REC:RPPR On/Off
001:01.000 Meter: 4/4 Reso:Hi ♩=120 :Manu
000: NEW SONG
RPPR
T01: TRACK 01 T01 A036:Standard Kit Ch 01
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

① **Make track settings just as when preparing to record tracks.**

Use steps ①–④ of "Preparations for recording" (☞p.62) to specify the program for the track.

② **In SEQ 5.1: RPPR, select the RPPR Setup page.**

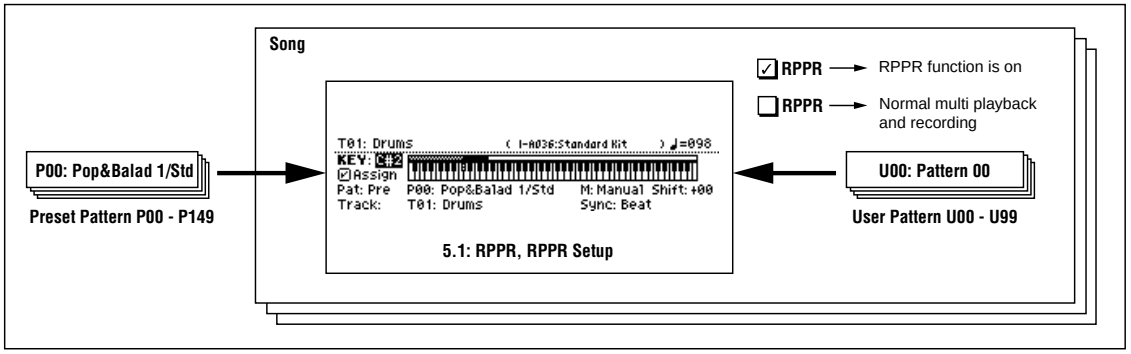
In this page, the RPPR function will automatically be on.


SEQ 5.1:RPPR RPPR Setup:Pattern Select
T01: TRACK 01 A036:Standard Kit ♩=120
KEY: C#2
Assign
Pat: User U00: PATTERN 00 M: Manual Shift: +00
Track: T01: TRACK 01 Sync: Beat
Pattern RPPR REVERT UTILITY

③ **Use "KEY" to select the key to which you wish to assign a pattern.**

You can also select a key by holding down the [ENTER] key and playing a note.

④ **Check the "Assign" check box.**


Song
RPPR → RPPR function is on
RPPR → Normal multi playback and recording
T01: Drums A036:Standard Kit ♩=098
KEY: C#2
Assign
Pat: Pre P00: Pop&Balad 1/Std M: Manual Shift: +00
Track: T01: Drums Sync: Beat
5.1: RPPR, RPPR Setup
P00: Pop&Balad 1/Std
Preset Pattern P00 - P149
U00: Pattern 00
User Pattern U00 - U99

You can make assignments for keys **C#2–C8**. Keys **C2** and below are used for stopping the pattern playback, and cannot be assigned.

⑤ **Select the pattern that will playback when you press the key selected in step ③.**

Use "**Pat** (Pattern Bank)" to select the pattern type (either **Pre** or **User**), and use "**Pattern Select**" to select the pattern.
A user pattern selected here must have already been recorded or copied in the Pattern page.

⑥ **Select the track that will play this pattern.**

The pattern will play according to the program and other settings of the track you select here.
If you wish to play a drum pattern, choose a track for which a drum program is selected. If you wish to play a bass pattern, select a track for which a bass program is selected.

⑦ **Set "M (Mode)," "Shift" and "Sync" to specify how the pattern will play, and how it will synchronize.**

When you press the key to which the pattern is assigned, the pattern will begin playing. The method of stopping playback will depend on the "**M** (Mode)" setting, but pressing the **C2** or lower key will stop all patterns.
For details on these parameters and on how to stop the playback, refer to PG p.94.
The assigned keys will be shown as a keyboard graphic in the LCD screen.

note Unassigned keys can be used for normal keyboard performance. Use "Track Select" to select the track that will be played from the keyboard. For example you might assign backing patterns such as drums and bass to the **C#2–B2** keys and use these keys to control pattern playback, and use keys **C3** and above to play solos in realtime. It is a good idea to keep the assigned keys together in this way.

Using REVERT to copy RPPR settings

By using "REVERT" (press the [F4] key), you can copy the "**Pat** (Pattern Bank)," "**Pattern Select**," and "**Track**" settings of the previously-edited "KEY" whose "Assign" was checked.

This allows you to work more efficiently when the patterns you are assigning to the keys are numbered consecutively or are nearby each other, and you are using them in the same track.

For example if you have started from the state shown in the foregoing illustration for step ② and followed the steps through ⑥, the settings will be as follows.

"KEY": C#2
"Pat (Pattern Bank)": Pre
"Pattern Select": P00: Pop&Balad 1/Std
"Track": T01: Drums

Now let's suppose that we want to make the following settings.
"KEY": D2
"Pat (Pattern Bank)": Pre
"Pattern Select": P01: Pop&Balad 2/Std
"Track": T01: Drums

① **Follow steps ①–⑦ of "RPPR settings" to assign the first RPPR to "KEY" C#2.**

② **Assign the second RPPR to "KEY" D2.**

③ **Press the [F4] ("REVERT") key.**

The settings of ① for "Pat (Pattern Bank)," "Pattern Select," and "Track" will be copied.

④ **Set "Pattern Select" to P01: Pop& Balad 2/Std.**

By repeating steps②–④ in this way, you can make RPPR settings more efficiently.

RPPR playback

Here's how you can use the RPPR function to perform in the SEQ 1.1: Play/REC. You can also playback a song while you perform with the RPPR function.

① **In Sequencer mode, select SEQ 1.1: Play/REC.**

② **Check the "RPPR" check box.**

The RPPR function will be turned on. The on/off setting is memorized for each song.

③ **Play the keyboard, and patterns will begin playing according to the RPPR settings.**

note Keys to which no pattern is assigned can be used for normal keyboard performance. (When you change "Track Select," the track played by the keyboard will change.)

note If you wish to trigger the RPPR function from an external MIDI device, use the MIDI channel that is selected for "Track Select."

④ **To turn off the RPPR function, uncheck the RPPR check box.**

RPPR performance techniques

- Pattern playback for a key with a "**Sync**" setting of **Beat** or **Measure** will synchronize to the pattern playback of the first key. (For details refer to "Sync" on PG p.94.)
- Pattern playback for a key with a "**Sync**" setting of **SEQ** will synchronize to the playback of the song. Start song playback, and then press the key. The pattern playback will start in synchronization with the measures of the song.

Synchronization will be lost if you use the [◄◄ REW] or [FF ►►] keys while a song is playing.

note If you want RPPR pattern playback to begin at the moment that song playback begins, it is a good idea to insert an empty measure containing no musical data before the song playback begins.

note If the song is stopped, the pattern will synchronize to the timing of the KARMA function. (☞p.89)

- If you are playing the pattern in synchronization (when "**Sync**" is **Beat**, **Measure**, or **SEQ**), the pattern will start accurately if you play the note

slightly earlier than the timing of the beat or measure. Even if you play the note slightly later than the beat or measure (but no later than a 32nd note), it will be considered to have started at the beat or measure, and the beginning of the pattern will be compressed so that the remainder of the playback will be correct.

Realtime recording an RPPR performance

Multitrack recording

You can use multitrack recording to simultaneously record the performance of multiple tracks played by the RPPR function.
The pattern will be recorded as musical data on the track used by RPPR.

RPPR settings for recording are made in the SEQ 5.1: RPPR, RPPR Setup page. Here if you set "**Sync**" to **SEQ**, the pattern playback will be recorded in synchronization with the sequencer. For details on how the "Sync" setting will affect the start timing of the pattern playback (☞PG p.94).
With a setting of **SEQ**, patterns played by the RPPR function while the sequencer is playing or recording will start in synchronization with the measures of the sequencer. The pattern of a key pressed during the pre-count before recording begins will start simultaneously with the beginning of recording, and will be recorded.

When recording the playback of patterns triggered by RPPR, the timing of the recorded events may be slightly skewed. If this occurs, try setting "**Reso**" (Realtime Quantize Resolution) to a setting other than **Hi**.

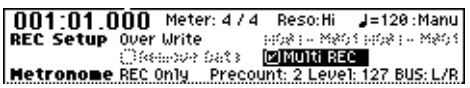
① **Using the procedure described in "Preparations for recording" (☞p.62), make the necessary settings.**

Your keyboard performance on keys that are not assigned to the RPPR function will be recorded on the track specified by "Track Select."

② **In the SEQ 1.1: Play/REC, Preference page REC Setup, set "Recording Mode" to Over Write.**

Multitrack recording can be used in **Over Write**, **Over Dub**, **Manual Punch In**, and **Auto Punch In recording modes**. Here we will describe the procedure for the most commonly used **overwrite** recording.

③ **Check the "Multi REC" check box.**



④ **Select the Program page.** The "PLAY/MUTE/REC" button of each track will indicate REC. For the tracks that you do not wish to record, press the "PLAY/MUTE/REC" button to select either **PLAY** or **MUTE.**

You will record all tracks played by RPPR and the keyboard performance track selected by "Track Select."
For example if you are using tracks 1 and 2 for RPPR playback and using track 3 for keyboard performance, you would set **REC** only for tracks 1, 2, and 3 as shown below.

SEQ 1.1:Play/REC Program:Track Select
001:01.000 Meter: 4 / 4 Reso:Hi ♩=120 :Manu
1 Drum 2 Bass 3 Keyb 4 Fast 5 Fast 6 Fast 7 Fast 8 Fast
A036 A086 A001 A000 A000 A000 A000 A000
REC REC REC PLAY PLAY PLAY PLAY PLAY
T03: TRACK 03 T03 A001:Acoustic Piano Ch 03
Play/REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. R.RTC UTILITY

⑤ **In 1.1: Play/REC, Play/REC page, check the "RPPR" check box.**

The RPPR function will be on.

⑥ **In "Location," specify the point at which recording will begin.**

⑦ **Press the [REC/WRITE] key, and then press the [START/STOP] key.**

Recording will begin.
When you press a key to which a pattern is assigned, that pattern will begin playing. Keys to which no pattern has been assigned will sound as usual for the track specified by "Track Select," and will be recorded.

If you want a pattern to begin playing at the moment that recording begins, press the key during the pre-count. (Make sure that the RPPR "**Sync**" is set to **SEQ**.)

⑧ **Press the [START/STOP] key.**

Recording will end, and the location will return to the point at which you began recording.

⑨ **To cancel multitrack recording, uncheck the "Multi REC" check box in step ③.**

Single track recording

You can also use single track recording to record an RPPR performance.

① **Make track settings in the same way as for multitrack recording.**

② **In SEQ 1.1: Play/REC, Play/REC page, check the RPPR check box.**

The RPPR function will be turned on.

③ **In the same way as for single track recording of a normal song, use "Track Select" to select the track that you wish to record.**

④ **In "Location," specify the point at which recording will begin.**

⑤ **Press the [REC/WRITE] key, and then press the [START/STOP] key.**

Recording will begin.

In the case of single track recording, only the track specified by "Track Select" will actually be recorded even if the RPPR performance consists of multiple tracks. Of the patterns that are assigned by the RPPR settings, only the performance of the patterns whose track matches will be recorded.

⑥ **Press the [START/STOP] key.**

Recording will end, and the location will return to the point at which recording began.

Song Play mode

In Song Play mode you can read **Standard MIDI Files (SMF)** directly from a floppy disk and play them. If you simply want to play an SMF without editing it, it will be convenient to select this mode.

When you turn off the power, the Song Play mode parameters will be erased. If you want the programs, track parameters, and effect settings etc. selected for the song to be saved as a Template Song, use the "Save Template Song" utility menu command to save them.

The structure of Song Play mode

As shown in the diagram below, Song Play mode consists of tracks 1–16, effects and KARMA module.

About SMF

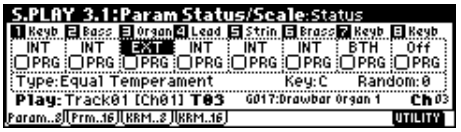
SMF data in **format 0** or **format 1** can be played back in Song Play mode.
This instrument recognizes only files with an extension of **.MID** as SMF data. Be sure that the filename extension is **.MID**.

About MIDI

Track status settings in Song Play mode

You can select whether the musical data played by a track, or the data produced by operating this instrument's keyboard and controllers will sound this instrument's internal tone generator, and/or will sound an external tone generator.

When the "**Status**" of a track is set to **INT**, the data played back by that track and the data produced by operating the keyboard or controllers of this instrument will play and control this instrument's internal tone generator.
When the "**Status**" of a track is set to **EXT** or **BTH**, the data played back by that track and the data produced by operating the keyboard or controllers of this instrument will play and control an external tone generator. (The MIDI channel of the external tone generator must match the "MIDI channel" of this instrument track that is set to **EXT** or **BTH**.) With a setting of **BTH**, the external tone generator and this instrument's own tone generator will be played and controlled simultaneously. (☞PG p.120)


S.PLAY 3.1:Param Status/Scale:Status
1 Keyb 2 Bass 3 Organ 4 Lead 5 Strin 6 Brass 7 Keyb 8 Keyb
INT INT EXT INT INT INT BTH Off
PRG PRG PRG PRG PRG PRG PRG PRG
Type:Equal Temperament Key:C Random:0
Play: Track01 [Ch01] T03 G017:Drawbar Organ 1 Ch03
Param..8 Frm..16 KRM..8 KRM..16 UTILITY

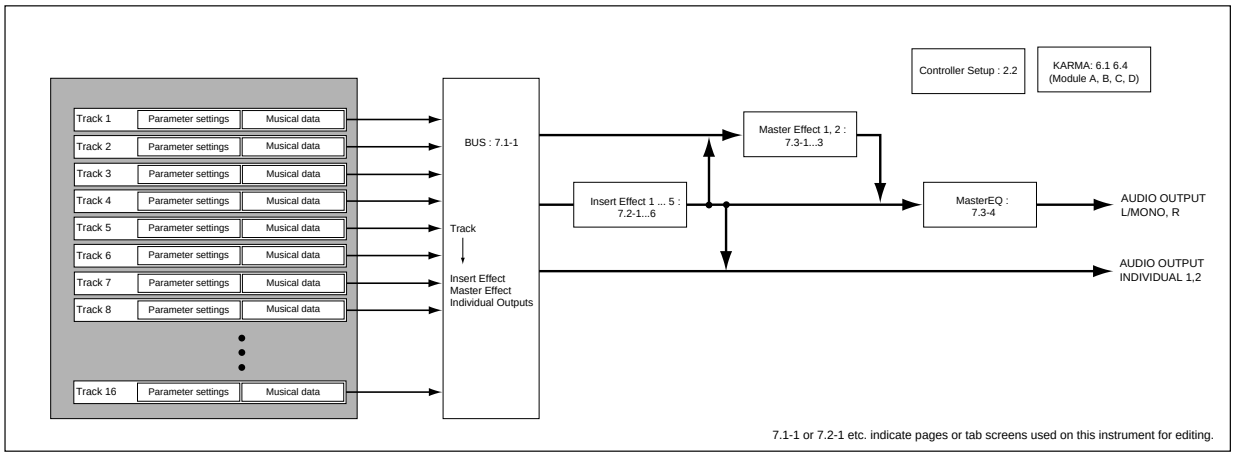
Synchronization with external devices

In Song Play mode, this instrument will be the master (the controlling device) regardless of the MIDI Clock setting (GLOBAL 2.1: MIDI, MIDI page "MIDI Clock").

Mute/Solo function

The S.PLAY 1.1: Play, Program page "PLAY/MUTE" and "SOLO On/Off" settings allow you to play or mute each track 1–16 as desired, in the same way as in Sequencer mode.
You can use these when you wish to mute the melody track and play the part yourself on the keyboard ("minus-one play"), or when you wish to audition a track (☞p.75).

You can use the utility menu command "Solo Selected Track" to audition only the currently selected track. This provides a convenient way to hear the parameter settings and effect settings of a track (☞PG p.116).



Playing SMF data

Direct playback from a floppy disk

When you wish to playback SMF data that is compatible with the GM/GS/XG standards, set "**Bank Map**" (Global 1.1: System Preference page) to **GM(2)**.(☞PG p.136)

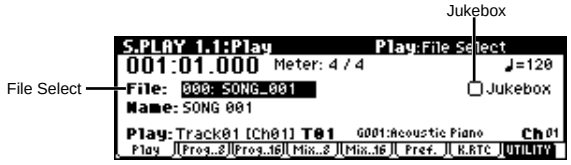
① **Press the [S.PLAY] key to enter Song Play mode.**

② **Insert a floppy disk containing SMF data into this instrument's disk drive.**

③ **Press either the [LOCATE], [START/STOP], or [PAUSE] key.**

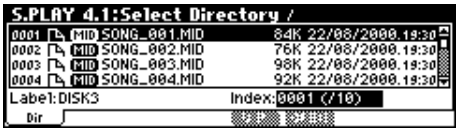
The data will be loaded from floppy disk, and "File Select" will show the SMF filenames.

If you press the [START/STOP] key, the data will be loaded and playback will begin.



In the following cases, "**File (File Select)**" will not display the SMF filenames.

- **There is no SMF data on the floppy disk.**
- **There is no SMF data in the currently selected directory.**
  To move to the directory that contains the SMF data, go to S.PLAY 4.1: Select Directory and use the **[F5] ("UP")** or the **[F6] ("OPEN")** key to move to the level that contains the desired SMF data.



Then verify that the SMF you wish to play (filename extension .MID) appears in the LCD screen, and press the [EXIT] key to return to S.PLAY 1.1: PLAY.

- **A jukebox list has not been created but the "Jukebox" check box is checked.**

④ **Choose "File Select," and use the VALUE [▲], [▼] keys to select the file that you wish to play.**

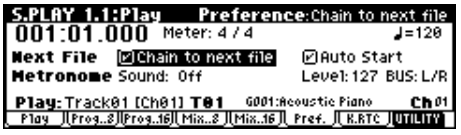
⑤ **Press the [START/STOP] key.**

If you pressed the [LOCATE] or [PAUSE] key in step ③, playback will begin. If you pressed the [START/STOP] key, playback will stop.
If the S.PLAY 1.1: Play Preference page **"Auto Start"** parameter is **checked** (default setting), all songs that can be selected in "File Select" will play consecutively.

⑥ **If a song is playing, press the [START/STOP] key once again to stop playback.**

Starting/stopping playback for each song

In the S.PLAY 1.1: Play, Preference page, **uncheck** "**Chain to next file**" or "**Auto Start**," and press the [START/STOP] key. Playback will begin, and will stop when each song ends. For details on these settings, refer to PG p.118.


S.PLAY 1.1:Play Preference:Chain to next file
001:01.000 Meter: 4 / 4 ♩=120
Next File Chain to next file Auto Start
Metronome Sound: Off Level: 127 BUS: L/R
Play: Track01 [Ch01] T01 G001:Acoustic Piano Ch 01
Play Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

Playing along with SMF data (Minus-one play)

You can enjoy "minus-one" play by playing back SMF data, muting a specific part, and playing that part yourself.

① **Playback the SMF data, identify the track whose part you wish to play, and stop playback (☞p.74).**

② **In S.PLAY 1.1: Play, select the program page.**

③ **Use "Play (Track Select)" to select the track for the part that you want to play from the keyboard.**

When you play the keyboard, the program of the selected track will be heard.

④ **In "PLAY/MUTE," MUTE the track that you yourself wish to play.**

S.PLAY 1.1:Play Program:Track Select
001:01.000 Meter: 4 / 4 ♩=136
1 Keyb 2 Bass 3 Organ 4 Lead 5 Strin 6 Brass 7 Keyb 8 Keyb
G001 G033 G017 G085 G041 G057 G001 G001
PLAY PLAY PLAY MUTE PLAY PLAY PLAY PLAY
Play: Track04 [Ch04] T04 G085:Charang Ch 04
Play Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

If you want the musical data of the track selected in ③ to sound along with your own playing, set "**PLAY/MUTE**" to **PLAY**.

⑤ **Press the [START/STOP] key to begin playback, and play along on the keyboard with the song.**

KARMA

During "minus-one" play, you can use the KARMA for your keyboard performance (☞p.87).

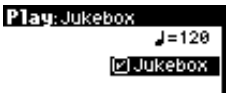
Jukebox function

Playback using the Jukebox function

This instrument provides a **Jukebox function** that can be used to playback SMF data. This function allows you to specify the order in which files in the same directory will be played.

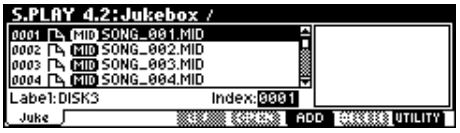
A jukebox list you create will be erased when the power is turned off, and can not be recovered. If you wish to keep your jukebox list, refer to the section"Saving/loading a Jukebox list", and save it on floppy disks.

① **In the S.PLAY 1.1: Play, Play page, check the "Jukebox" check box.**



② **Select S.PLAY 4.2: Jukebox page.**

The SMF data on the floppy disk will be displayed.



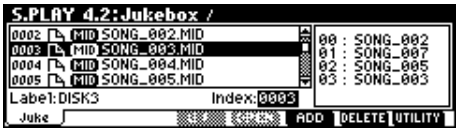
③ **Use the cursor keys [▲], [▼] to select the SMF (filename extension .MID) that you want to play first.**

④ **Press the [F6]("ADD") key.**

The filename you specified in step ③ will appear in the Jukebox list.

⑤ **Use the cursor keys [▲], [▼] to select the SMF that you want to play second, and press the [F6] ("ADD") key.**

The song will be played in the order in which they were registered in the Jukebox list. A maximum of 100 files (00–99) can be registered in the Jukebox list.



To delete a file from the Jukebox list, press the [F7](" DELETE") key.

⑥ **Press the [EXIT] key to access the S.PLAY 1.1: Play, Play page.**

The last file in the list will be deleted.

⑦ **Press the [START/STOP] key.**

The files will playback in the order in which they were registered.

⑧ **Press the [START/STOP] key once again to stop playback.**

note Only files in the same directory can be registered in a jukebox list.

If you perform the following operations while creating a jukebox list, the jukebox list will be lost.

- **Change the directory**
- **Remove the floppy disk**

Saving/loading a Jukebox list

Saving procedure

① **Use the procedure in steps ①–⑤ of "Using the Jukebox function for playback" to create a jukebox list.**

② **In S.PLAY 4.2: Jukebox page, select the utility menu command "Save Jukebox List".**

③ **Press the [F5] ("NAME") key to access the text dialog box, and enter a name for the Jukebox list. (☞p.39)**

④ **Press the [F8]("OK") key.**

The jukebox list will be saved to the floppy disk.

Loading procedure

① **Press the [S.PLAY] key to enter Song Play mode.**

② **Into the disk drive of this instrument, insert the floppy disk containing the Jukebox list file (filename extension .JKB).**

③ **In the S.PLAY 1.1: Play, Play page, check the "Jukebox" check box.**

④ **Access the S.PLAY 4.2: Jukebox page.**

⑤ **Use the cursor keys [▲], [▼] to select the Jukebox list file.**

⑥ **Select the "Load Jukebox List" utility menu command.**

⑦ **Press the [F8] ("OK") key.**

The jukebox list will be loaded into this instrument.

About the KARMA function

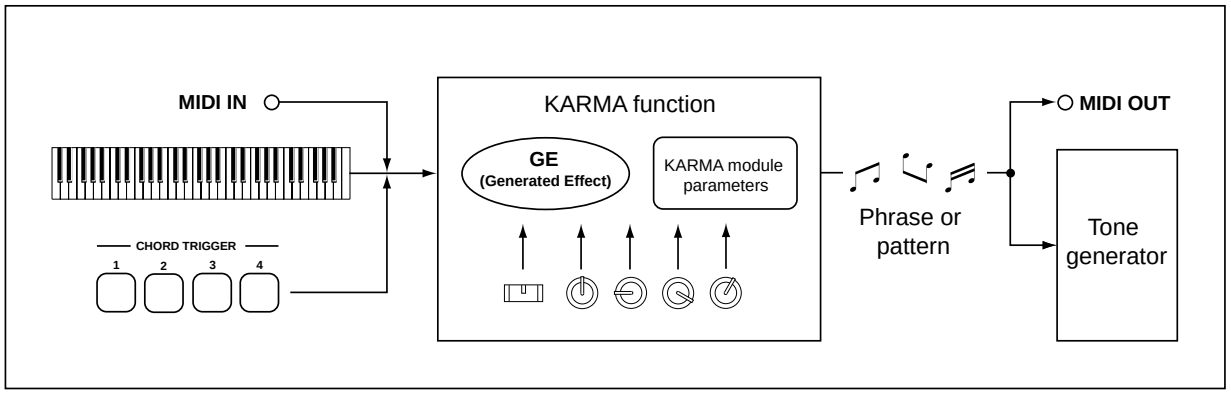
Overview

KARMA stands for **K**ay **A**lgorithmic **R**ealtime **M**usic **A**rchitecture.

The **KARMA function** generates MIDI data, using many different complex algorithms seamlessly integrated to provide a **powerful "music generation engine"**. Based on the notes and chords you play, **KARMA** generates phrases and patterns in real-time, generating not just notes but MIDI control data as well. The **KARMA architecture** allows the various algorithms to be re-configured and varied in realtime, as you play them.

For example, you can create spectacular cascades of complex interweaving notes, techno arpeggios and effects, dense rhythmic and melodic tex-tures, natural sounding glissandos for acoustic instrument programs, guitar strumming and finger-picking simulations, random effects, auto-accompaniment effects, gliding and swooping portamento and pitch bend effects, and new sound design possibilities. **KARMA** lets you produce phrases and patterns far beyond the current range provided by conventional arpeggiators or pattern playback functions.

The **KARMA** function is the heart of the **Karma Music Workstation**.
Whether you are playing programs or combinations, performing with the **KARMA Realtime Controls** knobs, switches, and [CHORD TRIGGER] keys, giving a live performance, or recording new music using the onboard sequencer, you can take full advantage of the **KARMA** function at any time.



The structure of the KARMA function

The KARMA function consists of the following major sections.

KARMA module

For each module, a GE (Generated Effect) can be selected to generate a phrase or pattern.
In Program mode you can use one module [A].
In Combination, Sequencer, and Song Play modes, you can use four modules [A][B][C][D]. For example you could use the modules to generate separate phrases for sounds such as drums, bass, guitar, and piano.

MIDI In Program mode, all MIDI data for the KARMA module is transmitted and received on the global MIDI channel "MIDI Channel" (GLOBAL 2.1-1a).

In Combination, Sequencer, and Song Play modes, the MIDI data for each KARMA module is transmitted and received on the "Input Channel" and "Output Channel" (6.1-2a) specified for each module.

GE (Generated Effect)

The phrases and patterns produced by a KARMA module are generated by a GE.
Based on note data from the keyboard, the GE uses various internal parameters to control how the note data will be developed, and how rhythm, chord structure, and velocity etc. will be controlled to generate a phrase or pattern. MIDI control changes and pitch bend data can also be generated in synchronization with the phrase or pattern, making it possible to create phrases or patterns in which the tone or pitch changes freely. This instrument contains preset GE's that can be used with a wide range of instruments, playing styles, and musical genres.

GE parameters

Each GE consists of approximately 400 internal parameters. From among these internal parameters, each GE provides up to sixteen preset parameters by which you can control the resulting phrase or pattern.These are referred to as the GE parameters. (The GE parameters will differ depending on the selected GE.)
You can modify the settings of the selected GE, or assign these parameters to the KARMA Realtime Controls knobs and control the phrase or pattern while you play.

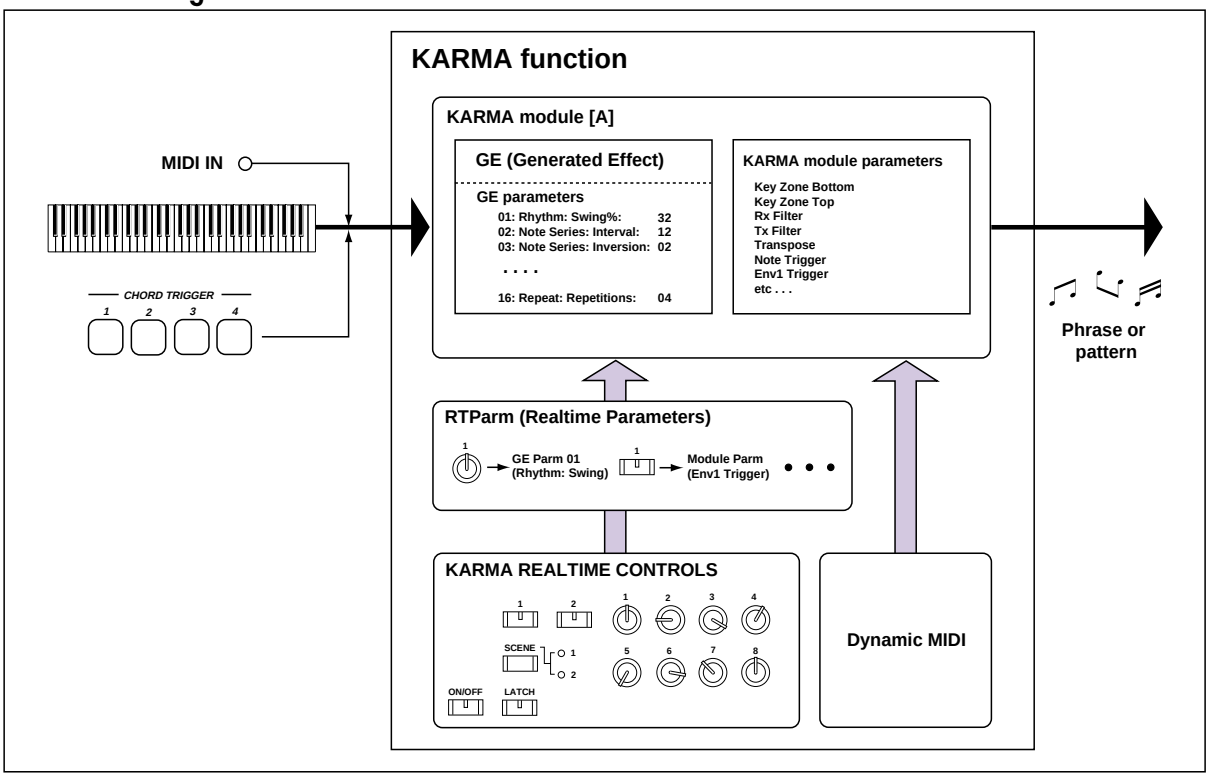
KARMA module parameters

These parameters control the phrase or pattern that is generated by the KARMA module.
They can be set for each KARMA module to select the GE and specify MIDI input and output channels, key zones, MIDI filter, triggering, and other functions not specified by the GE itself.

RT Parm (RealTime parameters)

These parameters make settings for control by the KARMA Realtime Controls knobs and switches.

KARMA - Program mode



GE parameters and KARMA module parameters can be assigned to the KARMA Realtime Controls knobs and switches, allowing you to control these phrases in realtime while you play, so that you can freely modify the phrases or patterns.

Dynamic MIDI

Dynamic MIDI is a function that lets you use MIDI control messages or the controllers of this instrument to control specific aspects of the KARMA function. By using this you can control the KARMA module in realtime in various ways, such as using the joystick to control strummed guitar phrases, using a foot switch to switch the KARMA module between Run/Mute, or using a damper pedal to control Latch for the KARMA module.

KARMA Realtime Controls

These are front panel controllers that are dedicated to the KARMA function. Their settings are saved for each program, combination, or song. (☞p.27)

[ON/OFF] key

This turns the KARMA function on/off.

[LATCH] key

When this is on, the phrase or pattern will continue playing even after you take your hand off of the keyboard or the [CHORD TRIGGER] key.

Knobs [1]–[8], switches [1]/[2]

These can be used to control GE parameters or KARMA module parameters in realtime while you play, so that you can freely modify the phrase or pattern being generated by the KARMA module. ("RT Parm" specifies the parameter that will be controlled.)

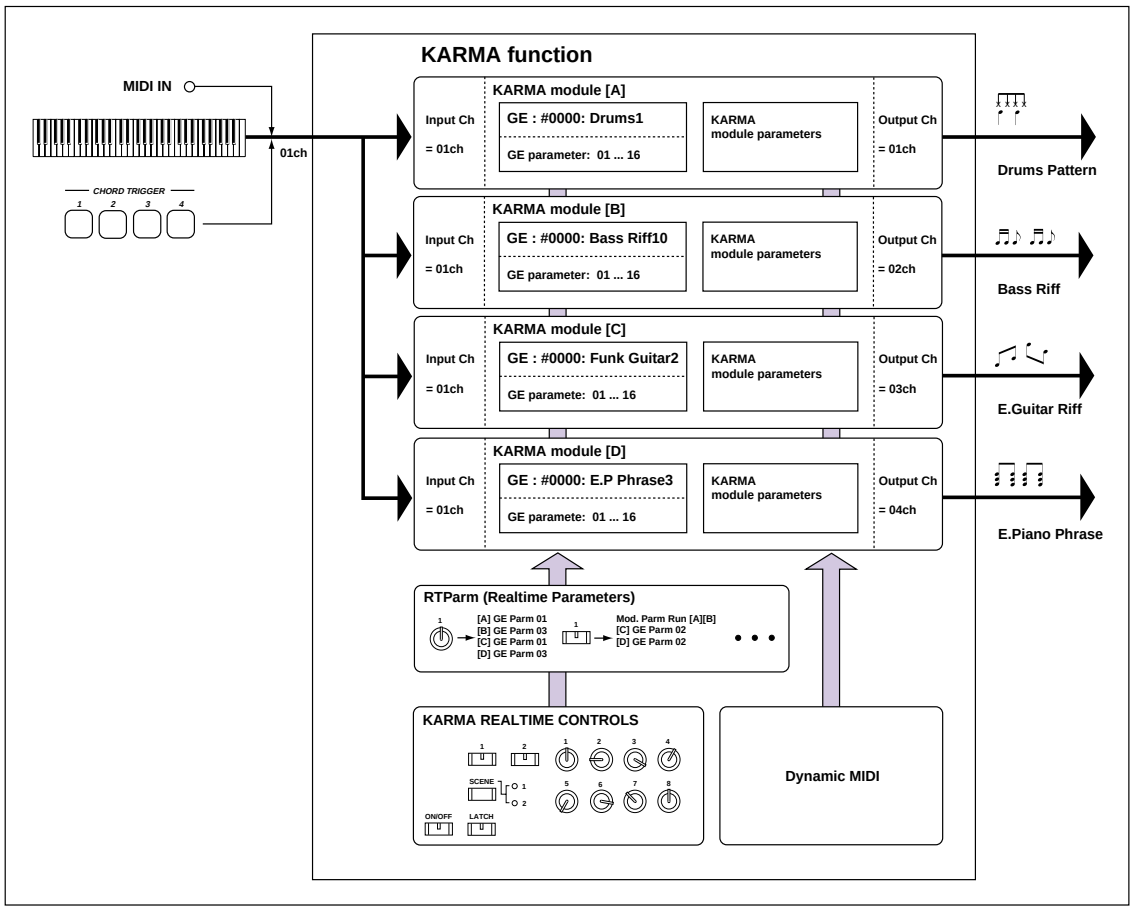
[SCENE] key

The settings of knobs [1]–[8] and switches [1]/[2] are saved as **SCENE 1** and **SCENE 2**.

CHORD TRIGGER [1]–[4] keys

When you press one of these keys, the specified chord (up to eight notes and one velocity setting) will be sounded, causing the KARMA function to operate. Suitable chords are pre-assigned to these keys for each of the preloaded programs and combinations, and you can use the [ASSIGN] key to easily assign your own chords. (number of section explaining how to assign Chord Trigger Keys. ☞p.27)

KARMA - Combination/ Sequencer/ Song Play mode



KARMA function settings

This section explains how to make settings for the KARMA function in each mode. For details on using the KARMA function to perform, refer to "Performing with the KARMA function" (☞p.26).

KARMA function settings in Program mode

In Program mode you can use one KARMA module (module [A]). KARMA function settings are made by the parameters of PROG 6.1–6.4. In the following paragraphs we will describe how to select a GE and set the major parameters. For details on each parameter, refer to PG p.26.

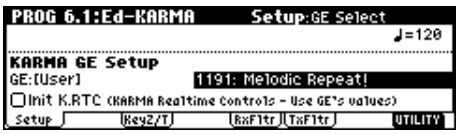
KARMA function on/off

The KARMA function will be switched on/off each time you press the KARMA Realtime Controls [ON/OFF] switch. When this is on, the key LED will light. The on/off status is saved when a program is written into memory.

Selecting a GE

Here's how to select the GE that will be used by the KARMA module.

① **Access the PROG 6.1: Ed-KARMA Setup page.**



② **Turn "Init. K.RTC (Init. KARMA Realtime Controls)" On (checked).**

Specify whether the settings of the KARMA Realtime Controls knobs and switches will be initialized when you select a GE. This lets you hear the phrase or pattern generated by the GE in its original state. Normally you will leave this On when selecting a GE. (☞PG p.5 PROG 1.1-3a)
When you select a GE with **"Init K.RTC" On (checked)**, each of the KARMA Realtime Controls knobs and switches will be internally set to center or off, respectively.
Each GE presets up to sixteen parameters that are most suitable for controlling the phrase or pattern. You can assign these GE parameters to KARMA Realtime Controls knobs and switches, and control them. When you do so, the phrase or pattern generated by the GE will change dramatically as you modify the settings of the KARMA Realtime Controls knobs and switches. By setting the knob and switch settings to center and off, respectively, you can make each GE play in its preset state.

If the GE parameter **"Asgn"** (PROG 6.3-1(2)(3)(4)a) is set to **Knob1–Knob8SW**, **SW[1]** or **SW[2]**, the GE may not operate in its preset state, depending on which GE was selected. In this case, set the GE parameter **"Asgn"** to —. If you execute the "Initialize KARMA Module" utility menu command in the 6.1: Ed-KARMA–6.4: ED-KARMA-RT pages, all KARMA module parameters will be initialized, including the GE parameter "Asgn."

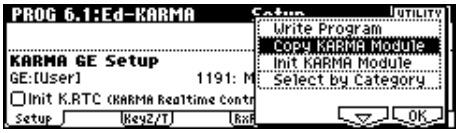
③ **In "GE Select," select the GE that the KARMA module will use. Use "Tempo" to specify the tempo of the GE phrase or pattern.**

This instrument provides over a thousand preset GE's that can be used with a variety of instruments, playing techniques, and musical styles.
The category of the GE selected for the KARMA module will be displayed. You can use the "Select by Category" utility menu command to select a GE by category. (☞PG p.5 "Select by Category")

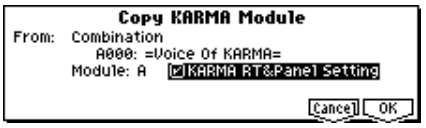
Copying KARMA function settings from another program

You can use the "Copy KARMA Module" utility menu command to copy the KARMA function settings (GE selection, KARMA module parameter settings, etc.) used by another program.

① **Press the [F8] ("UTILITY") key to access the utility menu.**



② **Press the [F7] key to select "Copy KARMA Module," and press the [F8] ("OK") key.**



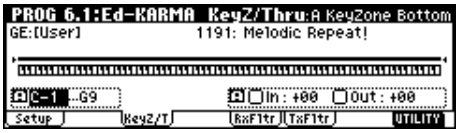
Specify the copy source mode, bank, and number etc. For details on each parameter, refer to PG p.26 PROG 6.1-1c. If you wish to copy all KARMA function settings of the other program, including the settings that specify how the controllers operate, set **"KARMA RT&Panel Setting" On (checked)**.

③ **To execute the copy, press the [F8] ("OK") key. To cancel without executing, press the [F7] ("Cancel") key.**

Specifying the keyboard range for which the KARMA function will operate

The variations, triggering, chord detection etc. of the phrases and patterns generated by the KARMA module can be controlled in a variety of ways.

① **Access the PROG 6.1: Ed-KARMA KeyZ/Thru page.**



② **Use "Key Zone Bottom" and "Key Zone Top" to specify the key zone. Note data from the keyboard or the MIDI IN connector that is within this range will be input to the KARMA module.**

In the settings shown in the example above, notes between C-1 and B3 will be input to the KARMA module. When you play B3 or lower keys, the KARMA function will produce a phrase or pattern.

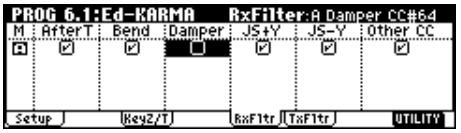
③ **If "In (Thru In Zone)" and "Out (Thru Out Zone)" are On (checked), the notes you play on the keyboard will be sounded at the same time as the phrases or patterns produced by the KARMA function. This setting can be made separately for inside and outside of the key zone.**

In the settings shown in the example above, **B3** and lower keys will control only the phrase or pattern generated by the KARMA function, and **C4** and higher keys will sound the notes that you actually play. Use "Out (Transpose OutZ)" to adjust the pitch range that you play manually.

KARMA module MIDI filters

Rx Filter (Receive Filter)

① **Access the PROG 6.1: Ed-KARMA RxFilter page.**



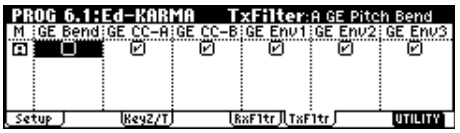
Here you can pecify whether filters will be applied to the MIDI control data received by the KARMA module before it is passed on (echoed) to the tone generator.

Here you can specify whether to apply filtering to the MIDI control data received by the KARMA module. If an item is **On (checked)**, it can be received.

When the KARMA function is on, MIDI control data received by a KARMA module will be sent to the tone generator without change. If this setting is **Off (unchecked)**, that data will not be sent to the tone generator. In the example shown above, the damper pedal will be sent through to the tone generator when the KARMA function is **off**, and will not be sent through when the KARMA function is **on**.

Tx Filter (Transmit Filter)

① **Access the PROG 6.1: Ed-KARMA TxFilter page.**

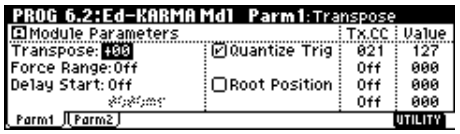


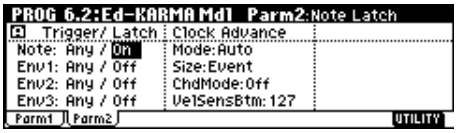
Here you can specify whether to apply filtering to the MIDI control data transmitted by the KARMA module. If an item is **On (checked)**, it can be transmitted.

Normally you will leave this **On (checked)**. If you do not need the pitch bend or control change data generated by the selected GE, turn this **Off (unchecked)**. In the example shown above, the pitch bend data generated by the GE will be disabled for transmission.

KARMA module parameters

In the PROG 6.2: Ed-KARMA MDl Parm1 and Parm2 pages, you can set KARMA module parameters.





In the following paragraphs we will explain settings for the most frequently used parameters. For details on each parameter, refer to PG p.29.

Transpose

This specifies a transposition in semitone units for the note data that is input to the KARMA module. This controls the pitch of the phrase or pattern that is generated by the KARMA module. For example if you wish to lower a bass phrase by one octave, you would set this to **–12.**

Quantize Trig (Quantize Triggers)

This setting quantizes (corrects) the timing at which note data will trigger the KARMA function. (☞p.88 "Synchronizing the KARMA function")

Off (unchecked): Triggering will occur at the moment you play the keyboard or trigger through Dynamic MIDI.

On (checked): Triggering timing will be quantized to 16th note units of the base tempo.

Tx.CC/Value (Transmit CC/Value)

Set this when you wish to control the program sound and effects when the KARMA function is **on**. For example, you could make the tone become darker or increase the resonance of the program's filter when the KARMA function is on. Or you could control an effect, for example by turning on a delay effect when the KARMA function is on, and hiding the delay effect when it is off.

Use "Tx.CC" to specify the MIDI control change num-

ber. If you wish to control the tone, use CC#'s in the seventies, or assign a AMS or Dmod source. (☞PG p.30 PROG 6.1-2b)
In the example on the preceding page, CC#74 and CC#71 are controlling the low pass filter cutoff, resonance level, and high pass filter cutoff.

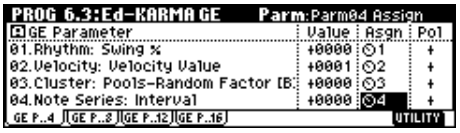
Trigger (Note Trigger)

You can specify triggering conditions for the phrase or pattern generated by the GE. Go ahead and try different settings to hear the results. (☞PG p.31 "Note Trigger")
Any: Triggering will occur each time you play the keyboard, and the phrase or pattern will start playing from the beginning.
AKR: Triggering will occur only when you play the keyboard after having released all notes.
1st: Triggering will occur only for the first note-**on** that occurs after the KARMA function has been turned **on**.
Dyn: Triggering will not be caused by playing the keyboard. Triggering will occur in response to the controller operations specified by Dynamic MIDI.

GE parameters

You can edit the parameters of the GE selected for the KARMA module. You can also assign GE parameters to the KARMA Realtime Controls etc., and control the phrase or pattern in realtime while you perform.

① **Access the PROG 6.3: Ed-KARMA GE Parm page.**



GE parameters 01–16 will be displayed. (The number of GE parameters will depend on the GE. The maximum is sixteen.) The GE parameters that you can edit here will depend on the GE that is selected. Each GE provides the most suitable parameters for controlling the phrase or pattern.

② **Use "Value" to specify the values of the GE parameters.**

When you select a GE, the parameters that are preset for that GE will be set to their default values. The range of "Value" that you can set is also preset for each GE.
The values that you specify here will be the central value when using "Asgn" to control the parameter from the KARMA Realtime Controls knobs etc.

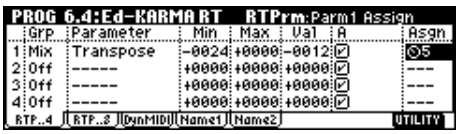
③ **Use "Asgn" to assign the GE parameters to controllers.**

If you assign a parameter to a KARMA Realtime Controls knob, you will be able to operate the knob to control that parameter in realtime.

RTParm (RealTime Parameters)

Here you can assign KARMA parameters other than the GE parameters, such as KARMA key zone and KARMA module parameters.
By assigning these to the KARMA Realtime Controls etc., you can control them in realtime while you perform. (☞p.27, PG p.34 PROG 6.4–1(2))

① **Access the PROG 6.4: Ed-KARMA RTPrm page.**



As an example, here's how you can use a KARMA Realtime Controls knob to control the KARMA module parameter "Transpose."

② **Use "Grp" and "Parameter" to select the parameter that you wish to control.**

In this example, we will set **"Grp" to Mix, and "Parameter" to Transpose**. Turn "A" **On (checked)** to enable control for KARMA module [A].

③ **Specify the range and value that you will control. The value of the parameter (set in 6.1 and 6.2) will be set as the default. (In this example, –12.)**

For this example, set **"Min"/"Max"/"Val"** to **–24 / +0 /–12** respectively.

④ **Use "Asgn" to assign a controller.**

For this example we will assign KARMA Realtime Controls knob [5].
When you operate knob [5], the Transpose value will change in semitone steps over a range of **–24** to **+0**, with **–12** as the mid-point.

note If you set **"Parameter"** to **Trnsp.Oct**, the pitch will change in octave steps over a range of **–24** to **+0**, with **–12** as the mid-point. If you select **Trnsp.Oct/5**, the pitch will change in alternate steps of an octave and a fifth over a range of **–24** to **+0**, with **–12** as the mid-point. For example if you are sounding the C3 note with the Min setting,
rotating the knob toward the right will change the pitch in the order of C3 → G3 → C4 → G4 → C5.

Dynamic MIDI settings

Dynamic MIDI is a function that lets you control specific aspects of the KARMA function by operating the controllers of this instrument or by using MIDI control messages. Here you can specify up to four controllers (Source), and their function (Destination). (☞PG p. 36 "6.4–3: DynMIDI (Dynamic MIDI)", PG p.234 Dynamic MIDI Source & Destination)

Naming the KARMA RTC knobs [1]–[8] and switches [1]/[2]

① **Access the PROG 6.4: Ed-KARMA RT Name1, or Name2 page.**

Select a name for each KARMA Realtime Controls knob and switch. These names are saved together with the program. Names appropriate for the functions of the KARMA Realtime Controls knobs and switches are provided as presets.

Linking KARMA settings to a program

If you want the KARMA settings written in a program to also be selected when you select that program, turn the "Auto KARMA" (GLOBAL 1.1:1c) "**Program**" setting **On (checked)**. (☞PG p.135)

KARMA function settings in Combination mode

In Combination mode (and in Sequencer mode and Song Play mode) you can use four KARMA module (modules [A], [B], [C], and [D]). When using a combination, you can use four KARMA modules and eight timbre programs to (for example) play separate phrases or patterns on drums, bass, guitar, and strings. KARMA function settings for a combination are made by the parameters of COMBI 6.1–6.4. In the following paragraphs we will describe how to make "Run" and "Solo" settings, select a GE, set MIDI I/O, and set other major parameters. For details on each parameter, refer to PG p.47, p.57–.

KARMA function on/off

The KARMA function will be switched on/off each time you press the KARMA Realtime Controls [ON/OFF] switch. When this is on, the key LED will light. The on/off status is saved when a combination is written into memory.
When the KARMA function is **off**, all KARMA modules [A], [B], [C], and [D] will be **off**. When the KARMA function is **on**, each KARMA module will function according to its "Run" and "Solo" setting.

"Run" and "Solo" settings

① **Access the COMBI 6.1: Ed-KARMA Setup page.**

COMBI 6.1:Ed-KARMA Setup:A Run
KARMA GE Setup
♩=106
A User : 1155 B User : 1156 C User : 1157 D Drum : 0691
GenArp-16ths, 2 House Bass Talking Modulat House09/House
Run Solo Run Solo Run Solo Run Solo
A 1155:GenArp-16ths, 2Phs Ch In:01G /Out:02 Init K.RTC
Setup MIDI I/O Key 2 Key T RxFltr TxFltr
UTILITY

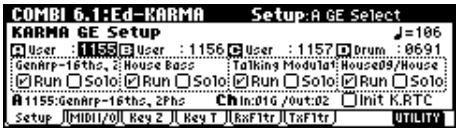
② **Set "Run" and "Solo" to specify the module(s) that will run when the KARMA function is on.**

☞ p.30 "Specifying the KARMA module(s) that will run ("Run," "Solo" settings)," PG p.47, PG COMBI 1.1-4b)

Selecting a GE

Here's how to select the GE that will be used by each KARMA module.

① **Access the COMBI 6.1: Ed-KARMA Setup page.**


COMBI 6.1:Ed-KARMA Setup:A GE Select
KARMA GE Setup
♩=106
A User : 1155 B User : 1156 C User : 1157 D Drum : 0691
GenArp-16ths, 2 House Bass Talking Modulat House09/House
Run Solo Run Solo Run Solo Run Solo
A 1155:GenArp-16ths, 2Phs Ch In:01G /Out:02 Init K.RTC
Setup MIDI I/O Key 2 Key T RxFltr TxFltr
UTILITY

② **Turn "Init. K.RTC (Init. KARMA Realtime Controls)" On (checked).**

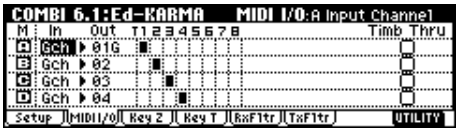
Specify whether the settings of the KARMA Realtime Controls knobs and switches will be initialized when you select a GE. This lets you hear the phrase or pattern generated by the GE in its original state. Normally you will leave this **On** when selecting a GE. (☞p.80 "KARMA function settings in Program mode", PG p.47 COMBI 1.1–4c)

③ **In "GE Select," select the GE that each KARMA module will use. Use "Tempo" to specify the tempo of the GE phrases or patterns.**

.MIDI I/O channel settings

Specify the MIDI input and output channels for the four KARMA modules used by a combination.
By setting the MIDI input/output channels for each KARMA module and the MIDI channel of each timbre, you can specify which timbre(s) will be sounded by each KARMA module. These are the most important parameters when you are using multiple KARMA modules in a combination.

① **Access the COMBI 6.1: Ed-KARMA MIDI I/O page.**


COMBI 6.1:Ed-KARMA MIDI I/O:A Input Channel
M In Out T 1 2 3 4 5 6 7 8 Timb Thru
A Gch 01G
B Gch 02
C Gch 03
D Gch 04
Setup MIDI I/O Key 2 Key T RxFltr TxFltr
UTILITY

② **For each KARMA module, set the "Input Channel" and "Output Channel."**

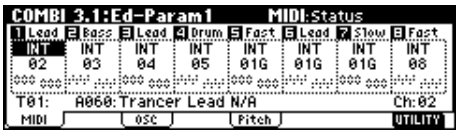
"Input Channel": For a combination, you will normally set this to Gch, so that your keyboard playing will control the KARMA module.
"Output Channel": Set this to the MIDI channel of the timbre that you wish to play from the KARMA module.

Example setting:

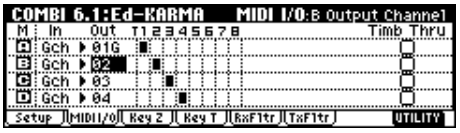
Select a bass program for timbre 1, and a piano program for timbre 2.
We will make settings so that timbre 1 is played by a bass phrase from KARMA module [A], and timbre 2 by a piano phrase from KARMA module [B]. (Make sure that the global MIDI channel (GLOBAL 2.1-1a) is set to 01.)

① **Set the "MIDI Channel" (3.1-1a) of timbres 1 and 2.**

For this example, set timbre 1 to 01G, and timbre 2 to 02. By setting these to separate channels, each timbre will be played only by the KARMA module of the matching channel.



② **Set the "Input Channel" and "Output Channel" of each KARMA module.**

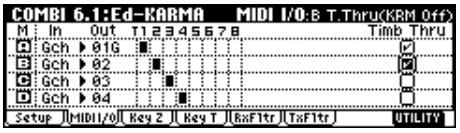


KARMA module [A]: **"In"=Gch, "Out"=01G**
KARMA module [B]: **"In"=Gch, "Out"=02**

③ **Check "Run" for KARMA modules [A] and [B], and select a GE for each.** (☞p.30)

KARMA module [A]: select a bass phrase as the GE
KARMA module [B]: select a piano phrase as the GE
When the KARMA function is **on**, your keyboard playing will be input to KARMA modules [A] and [B].
Module [A] will output the generated bass phrase on MIDI **channel 01** to play timbre 1.
Module [B] will output the generated piano phrase on MIDI **channel 02** to play timbre 2.

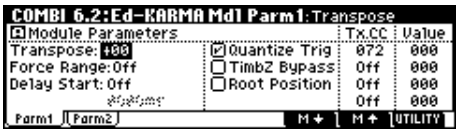
④ **Set "Timb Thru" to specify whether the timbres will sound when the KARMA function is off.**



When the KARMA function is **off**, the timbres that match the global MIDI channel (Ch. 01) will normally sound when you play the keyboard. In this example, the bass of timbre 1 (ch.01) will sound.
If you turn "**Timb Thru**" **On (checked)**, timbres that do not match the global MIDI channel will sound when the KARMA function is off.
Turn KARMA module [B] **"Timb Thru"** to **On (checked)**. When the KARMA function is **off**, the piano of timbre 2 (ch.02) will sound in addition to the bass of timbre 1 (ch.01).

Making parameter settings for each KARMA module

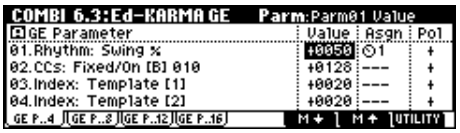
For each KARMA module, you can specify parameters such as the keyboard range that will send input notes to that module, and the MIDI filter settings. These parameters are saved for each KARMA module as part of the combination.
In the 6.2: Ed-KARMA Mdl page, use the M+ ([F6] key) and M+ ([F7] key) to select the KARMA module that you wish to edit. The selected KARMA module will be indicated in the upper left of the LCD screen as [A], [B], [C], or [D].



GE parameters

You can edit the parameters of the GE selected for each KARMA module.

① **Access the COMBI 6.3: Ed-KARMA GE Parm page.**

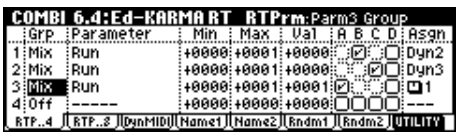


Use the M+ ([F6] key) and M+ ([F7] key) to select the KARMA module that you wish to edit.
The selected KARMA module will be indicated in the upper left of the LCD screen as [A], [B], [C], or [D].
In the same way as when editing in a program, set "Value," "Asgn," and "Pol." You can also assign multiple GE parameters to a single KARMA Realtime Controls knob. For example you can use a single knob to control the GE parameter "Rhythm Swing%" for all modules [A], [B], [C], and [D].

RTParm (RealTime Parameters)

In the same way as for a program, non-GE KARMA parameters such as KARMA key zone and KARMA module parameters can be assigned to a controller.

① **Access the COMBI 6.4: Ed-KARMA RT RTPrm page.**



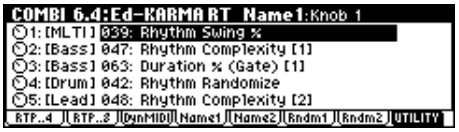
In the same way as for a program, set "Grp," "Parameter," "Min," "Max," "Val," and "Asgn."
In a combination, you can use KARMA modules [A], [B], [C], and [D]. Turn **"Param Module" On (checked)** for the modules that you wish to control.
In the example shown above, KARMA Realtime Controls switch [1] is controlling **Run/Mute** for modules [A] and [B], and switch [2] is controlling **Run/Mute** for modules [C] and [D].

Dynamic MIDI settings

Make these settings in the same way as for a program. (☞PG p. 63 6.4–3 “DynMIDI (Dynamic MIDI)”, PG p.234 Dynamic MIDI Source & Destination)

Naming the KARMA RTC knobs [1]–[8] and switches [1]/[2]

In the same way as in a program, you can select names for each KARMA Realtime Controls knob and switch. These settings are saved together with each combination.

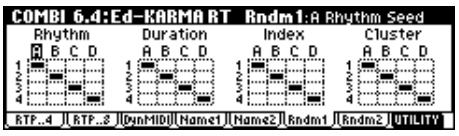

COMBI 6.4:Ed-KARMA RT Name1:Knob 1
1: [MLTI] 039: Rhythm Swing %
2: [Bass] 047: Rhythm Complexity [1]
3: [Bass] 063: Duration % (Gate) [1]
4: [Drum] 042: Rhythm Randomize
5: [Lead] 048: Rhythm Complexity [2]
RTP..4 RTP..8 DynMIDI Name1 Name2 Rndm1 Rndm2 UTILITY

In a combination, part of the category name of the program selected for the timbre controlled by the KARMA Realtime Controls knobs and switches is automatically displayed in square brackets [ ]. If settings have been made to control multiple timbres simultaneously, this will indicate **[MLTI]**.
This tells you the timbre of the phrase that the KARMA Realtime Controls knobs and switches are controlling.

Specifying the degree of randomness (Random Seed)

For the GE selected for each KARMA module, you can often control the degree of randomness for various parameter groups such as rhythm, duration, velocity etc. The random calculations are performed based on initial starting values, known as “seeds.” The same GE in 2 or more modules, set to the same seed, will perform its randomizations in the same order and manner. If they are set to different seeds, the randomizations will be different for each module.

① **Access the COMBI 6.3: Ed-KARMA RT Rndm1 or 2 page.**



Normally, you will specify different values for each as shown above: “A”: **1**, “B”: **2**, “C”: **3**, and “D”: **4**. If you have selected the same GE for two or more KARMA modules and want to set them to produce the same sequence of randomizations (so that they will play in unison or harmony), select the same value. (☞PG p.64 COMBI 6.4–6(7)a)

Linking the KARMA function settings to a combination

If you want the KARMA function settings written in a combination to also be switched when you switch combinations, turn the “Auto KARMA” (GLOBAL 1.1-1c) “Combi” parameter **On (checked)**. (PG p.135)

KARMA function settings in Sequencer mode

In Sequencer mode, you can use four KARMA modules (modules [A], [B], [C], and [D]). Similar to combination mode, you can play separate phrases or patterns using different programs such as drums, bass, guitar, and strings, or create setups that combine the four KARMA modules with sixteen track programs.
The structure of the parameters for the KARMA function is the same as for a combination. (☞p.83 “KARMA function settings in Combination mode”)
In Sequencer mode, you can use the KARMA function for realtime recording of song tracks or patterns. The note-on/off or MIDI control data generated by a KARMA module can be recorded as track or pattern events. When doing so, you can use the KARMA Realtime Controls knobs and switches and the [CHORD TRIGGER] keys etc. to control phrases and patterns in realtime while you record. You can also copy settings from a combination, or record your keyboard playing in realtime (multi-track recording).

Data from the internal sequencer will not be input to the KARMA modules. Nor can note data from the internal sequencer be used to trigger phrases etc. for the KARMA function.

In the following section, we will describe the procedure for using the KARMA function for realtime recording (single track recording), and how to copy settings from a combination and use them in realtime recording (multi-track recording).

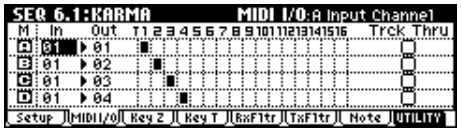
Realtime recording using the KARMA function (single-track recording)

As an example, here’s how to record a drum pattern on track 1 while using the KARMA function.

① **As described in the procedure for realtime recording on a track and the preparations for recording (☞p.63), select the desired drum program for track 1. Then make the necessary preparations for recording, such as setting “Track Select” (1.1-1c) to T01.**

SEQ 1.1:Play/REC Program:Program Select
001:01.000 Meter: 4 / 4 Reso:Hi ♩=136 :Manu
1 Drum 2 Bass 3 Keyb 4 Organ 5 Strin 6 Fast 7 Wood 8 Hit/A
A020 B006 A065 A023 A099 A048 A029 A094
PLAY
T01: Drums T01 A020:House Kit Ch 01
Play,REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. R.RTC UTILITY

② **Access the SEQ 6.1: KARMA MIDI I/O page. Make MIDI I/O settings for the KARMA modules so that KARMA module [A] will play track 1.** (☞p.83 “KARMA function settings in Combination mode”)

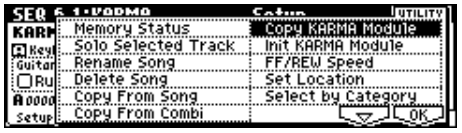

SEQ 6.1:KARMA MIDI I/O:A Input Channel
M In Out T1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Trck Thru
A 01 01
B 01 02
C 01 03
D 01 04
Setup MIDI I/O Key 2 Key T RxFltr TxFltr Note UTILITY

Set the KARMA module [A] “**Input Channel**” and “**Output Channel**” to **01** and **01** respectively. (The result will be the same if you set these to **Tch** and **Tch**. (☞PG p.104 SEQ 6.1-2))

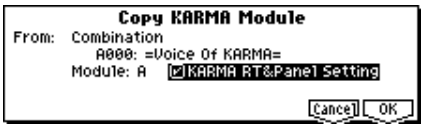
③ **Access the SEQ 6.1: KARMA Setup page. Select a GE for KARMA module [A], and set the parameters.**

This could be selected and set as desired, but for this example, use the "Copy KARMA Module" utility menu command to copy the entire KARMA function settings from a program. This is an easy way to set up and record a phrase or pattern from the KARMA function of a program.

④ **Press the [F8] "(UTILITY") key to access the utility menu.**



⑤ **Press the [F7] key to select "Copy KARMA Module," and press the [F8] ("OK") key. The "Copy KARMA Module" dialog box will appear.**



Select the copy source program. Turn **"KARMA RT&Panel Setting" On (checked)**, and set **"To: Module"** to **A**. Press the [F8] ("OK") key to execute the copy.

⑥ **Press the [ON/OFF] key to turn on the KARMA function. When you play the keyboard, the KARMA function will play a drum pattern just as for a program.**

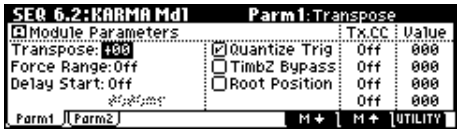
⑦ **Press the [REC/WRITE] key and [START/STOP] key to begin realtime-recording on track 1. (☞BG p.63 Realtime recording on a track)**

While recording, you can operate the KARMA Realtime Controls knobs and switches and SCENE key etc. to record the changes in the pattern and tone just as you perform.

The tempo of the song and the KARMA function cannot be set independently.

⑧ **If you want the sequencer to be synchronized to the KARMA module while you are recording, check "Quantize Trig."**

Access the SEQ 6.2: KARMA Mdl Parm1 page.



The trigger timing will be quantized to 16th note intervals of the sequencer beat. (☞p.88 "Synchronizing the KARMA function")

⑨ **You can also synchronize the KARMA modules to the start timing of the sequencer.**

- Pressing the [START/STOP] key while KARMA is operating will synchronize the KARMA function to the sequencer.
- When you press the [START/STOP] key once again, the KARMA function will stop together with the sequencer. If you wish to stop only the KARMA function, press the (KARMA) [ON/OFF] key to turn it **off**.
- If you want the KARMA function to start in synchronization with the beginning of recording, press the (KARMA) [ON/OFF] key to turn it **on**, and play the keyboard during the pre-count that precedes recording. The KARMA module will not be triggered immediately, but will be triggered at the beginning of recording in synchronization with the sequencer. (☞p.88 "Synchronizing the KARMA function")

Copying settings from a combination, and recording in realtime (Multi-track recording)

The preloaded combinations contain numerous combinations that make full use of the KARMA function. The playback generated by these combinations can be used as sketchpads for your musical ideas, or as basic tracks for a song. Many of these combinations consist of timbres and KARMA modules with differing MIDI channel settings.

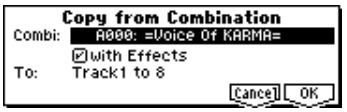
Here's how to use multi-track recording to simultaneously record a performance of multiple MIDI channels in realtime.

① **Copy the settings from a combination to a song. Access the SEQ P1.1: Play/REC, Play/REC page.**

② **Press the [F8] ("UTILITY") key to access the utility menu.**

③ **Press the [F7] key to select "Copy From Combi," and press the [F8] ("OK") key.**

The "Copy from Combination" dialog box will appear.



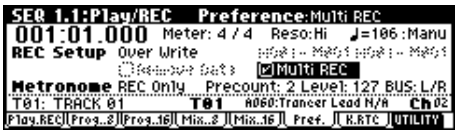
Specify the copy source combination. Turn **"with Effects" On (checked)**. Set **"To:"** to **Track1 to 8**. Press the [F8] ("OK") key to execute the copy.

④ **The settings for timbres 1–8 of the combination will be copied to Tracks 1–8. All other common parameters such as effect and KARMA function settings will be copied to the song.**

⑤ **Set Track Select to the track of the same MIDI channel as the global MIDI channel.**

Press the [ON/OFF] key to turn the KARMA function on. When you then play the keyboard or press a [CHORD TRIGGER] key, the KARMA function will begin playing just as for the combination. (Depending on the track you selected by "Track Select," the result may not be identical to the combination. Select a track that uses the same MIDI channel as the global MIDI channel.)

⑥ **Perform multi-track recording. As described in the section on multi-track recording (☞p.72), make preparations for recording. In the Preferences page, turn "Multi REC" On (checked).**


SEQ 1.1:Play/REC Preference:Multi REC
001:01.000 Meter: 4 / 4 Reso:Hi ♩=106 :Manu
REC Setup Over Write
Multi REC
Metronome REC Only Precount: 2 Level: 127 BUS: L/R
T01: TRACK 01 T01 A060:Trancer Lead M/A Ch 02
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

⑦ **Access the SEQ 1.1: Play/REC, Prog..8, and Prog..16 pages.**

SEQ 1.1:Play/REC Program:Program Select
001:01.000 Meter: 4 / 4 Reso:Hi ♩=106 :Manu
1 Lead 2 Bass 3 Lead 4 Drum 5 Fast 6 Lead 7 Slow 8 Fast
A060 B070 E087 A020 A096 E112 A104 A000
REC REC REC REC REC REC REC REC
T01: TRACK 01 T01 A060:Trancer Lead M/A Ch 02
Play.REC Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

All tracks will be set to **REC**. Here you will set all tracks to **PLAY** or **MUTE** except for the track that you wish to record. However in cases where you wish to record a performance using a combination, and there are no previously-recorded tracks, you may leave all tracks in the REC status.

⑧ **Press the [REC/WRITE] key and then the [START/STOP] key to start realtime recording. (☞BG p.62 Realtime recording on a track)**

You can operate the KARMA Realtime Controls knobs and switches and the [SCENE] key etc. while recording, and the changes in the pattern and tone will be recorded just as you perform.

The tempo of the song and the KARMA function cannot be set independently.

KARMA function settings in Song Play mode

In Song Play mode you can use four KARMA modules (modules [A], [B], [C], and [D]). In the same way as for a combination, you can use separate phrases or patterns to play programs such as drums, bass, guitar, and strings, or combine the four KARMA modules and sixteen track programs in various ways.
The structure of the KARMA-related parameters is the same as for a combination. (☞p.83 "KARMA function settings in Combination mode")
In Song Play mode, you can use the KARMA function to perform along with the playback of a SMF (Standard MIDI File). You can use the KARMA Realtime Controls knobs and switches and [CHORD TRIGGER] keys etc. to control the phrases and patterns in realtime while you perform. You can also make settings so that the phrase produced by the KARMA module will change when you change the track that you are playing.

Data from the SMF will not be input to the KARMA module. Nor can note data from the SMF be used to trigger phrases etc. of the KARMA function.

As an example, here's how to specify separate programs on two tracks for performance from the keyboard, and switch KARMA module phrases when you switch between these two tracks.

① **Access the S.PLAY 1.1: Play Prog..8 page.**

S.PLAY 1.1:Play Program:Program Select
001:01.000 Meter: * / * ♩=120
1 Keyb 2 Organ 3 Keyb 4 Keyb 5 Keyb 6 Keyb 7 Keyb 8 Keyb
A001 A023 G001 G001 G001 G001 G001 G001
MUTE MUTE PLAY PLAY PLAY PLAY PLAY PLAY
Play: Track01 [Ch01] T01 A001:Acoustic Piano Ch 01
Play Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

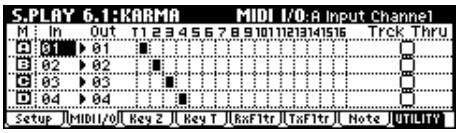
For tracks 1 and 2, select the programs that you wish to play from the keyboard.

② **Access the S.PLAY 1.1: Play page.**

S.PLAY 1.1:Play Play:Track Select
001:01.000 Meter: * / * ♩=120
File:
Name:
Jukebox
Play: Track01 [Ch01] T01 G001:Acoustic Piano Ch 01
Play Prog..8 Prog..16 Mix..8 Mix..16 Pref. K.RTC UTILITY

By setting "Play (Track Select)" to Track 01 (Ch01), you can play A001: Acoustic Piano from the keyboard. By setting this to Track 02 (Ch02), you can play A023: M1 Organ.

③ **Access the S.PLAY 6.1: KARMA MIDI I/O page. Make MIDI I/O settings for the KARMA modules so that KARMA module [A] plays track 1, and KARMA module [B] plays track 2. (☞p.83 "KARMA function settings in Combination mode" "KARMA function settings in Combination mode")**


S.PLAY 6.1:KARMA MIDI I/O:A Input Channel
M In Out T1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 Trck Thru
A 01 ▶01
B 02 ▶02
C 03 ▶03
D 04 ▶04
Setup MIDI I/O Key Z Key T RxFltr TxFltr Note UTILITY

Set the KARMA module [A] "Input Channel" and "Output Channel" to 01 and 01 respectively. Set the KARMA module [B] "Input Channel" and "Output Channel" to 02 and 02 respectively.

④ **Access the S.PLAY 6.1: KARMA Setup page.**

Here you can select the GE for KARMA modules [A] and [B], and set their parameters. **Check** "Run." You can use the "Copy KARMA Module" utility menu command to copy the entire KARMA function settings from a program. (☞ p.85 "Realtime recording using the KARMA function (single-track recording)" ④, ⑤)

⑤ **Press the [ON/OFF] key to turn on the KARMA function.**

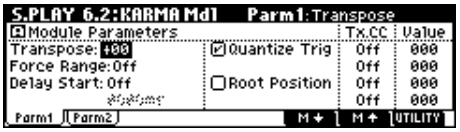
If you set **"Play (Track Select)"** to **Track 01 [Ch01]**, you can use KARMA module [A] to play a phrase on **A001: Acoustic Piano.**
If you set **"Play (Track Select)"** to **Track 02 [Ch02]**, you can use KARMA module [B] to play a phrase on **A023: M1 Organ**.

note You can set the KARMA module "Key Zone" (6.1-3)" and "Key Thru (6.1–4)" parameters to specify the range of the keyboard that will control KARMA and the range that you can play manually. (☞p.80 "KARMA function settings in Program mode" – Setting the keyboard range that will operate the KARMA function")

The tempo of the SMF and KARMA function cannot be set independently.

⑥ **If you wish to synchronize the KARMA module to the SMF that is playing, set "Quantize Trig" On (checked).**

Access the S.PLAY 6.1: KARMA Parm1 page.



The trigger timing will be quantized to the nearest 16th note interval of the SMF beat.

Synchronizing the KARMA function

The "Quantize Trig" parameter

The trigger timing of the KARMA module will depend on the setting of the "Quantize Trig" parameter.
On (checked): The trigger timing will be quantized to the nearest 16th note interval of the base tempo.
Off (unchecked): Triggering will occur at the moment you play the keyboard or send in a trigger through Dynamic MIDI.

Synchronization between KARMA modules [A], [B], [C], and [D]

In Combination, Sequencer, and Song Play modes, four KARMA modules can be operating. "Quantize Trig" can be set independently for each of these four KARMA modules.
"Quantize Trig" Off: The KARMA module will be triggered at the moment you play the keyboard or send in a trigger through Dynamic MIDI. The corresponding KARMA module will be triggered immediately, without synchronization between KARMA modules.
"Quantize Trig" On: Triggering will be quantized to the nearest 16th note interval of the timing of the first-triggered KARMA module that is now operating.
Even if you are simultaneously triggering multiple KARMA modules from the keyboard or the [CHORD TRIGGER] keys, you should set each of these KARMA modules to **"Quantize Trig" On.**

Synchronizing songs, patterns, and RPPR performance in Sequencer mode

If you wish to play or record a KARMA module in synchronization with the timing of a currently-playing song, pattern, or RPPR, set **"Quantize Trig" On**.
"Quantize Trig" Off: The KARMA module will be triggered at the timing that you play the keyboard or send in a trigger through Dynamic MIDI. It will not synchronize to the currently-playing song, pattern, or RPPR.
"Quantize Trig" On: The KARMA module will be triggered at the nearest 16th note interval of the currently-playing song, pattern, or RPPR.

note If you want patterns played by RPPR to synchronize with the currently-operating KARMA function, set **"Sync"** (SEQ 5.1: RPPR, RPPR Setup page) to **SEQ**.

Synchronizing with SMF playback in Song Play mode

If you want the KARMA module to be synchronized with a currently-playing SMF, set "**Quantize Trig"** to **On**.
"Quantize Trig" Off: The KARMA module will be triggered at the moment you play the keyboard or send in a trigger through Dynamic MIDI. It will not synchronize to the currently-playing SMF.
"Quantize Trig" On: Triggering will synchronize to the nearest 16th note interval of the currently-playing SMF.

Synchronizing with song start/stop

Synchronizing with a song or pattern in Sequencer mode

- If you press the [START/STOP] key while the KARMA function is operating, the KARMA function will synchronize to the timing of the sequencer. The KARMA function will be reset, and will start from the beginning of the phrase or pattern.
- If the sequencer is running and the KARMA function is operating, and you change the location by (for example) pressing the [LOCATE] key, the KARMA function will be reset, and will start from the beginning of the phrase or pattern.
- If you then press the [START/STOP] key, the sequencer and the KARMA function will both stop. If you wish to stop only the KARMA function, press the (KARMA) [ON/OFF] key.
- If you want the KARMA function to start simultaneously with the beginning of recording, press the (KARMA) [ON/OFF] key, and play the keyboard during the precount that precedes recording. The KARMA module will not be triggered immediately, but will be triggered in synchronization with the sequencer when recording begins.

Synchronizing with a song in Song Play mode

- If you press the [START/STOP] key while the KARMA function is operating, the KARMA function will synchronize to the timing of the SMF playback. The KARMA function will be reset, and will start from the beginning of the phrase or pattern.
- If the SMF is playing and the KARMA function is operating, and you change the location by (for example) pressing the [LOCATE] key, the KARMA function will be reset, and will start from the beginning of the phrase or pattern.
- If you then press the [START/STOP] key, the SMF and the KARMA function will both stop. If you wish to stop only the KARMA function, press the (KARMA) [ON/OFF] key.

Synchronizing to an external MIDI device

If "MIDI Clock" (GLOBAL 2.1-1a) is set to External (♩=EXT), the KARMA function will synchronize to MIDI realtime clock and realtime commands received from a connected MIDI device.

Synchronizing to external MIDI clock

Set **"MIDI Clock"** (GLOBAL 2.1-1a) to **External**. The tempo of the KARMA function will synchronize to the timing of the external MIDI clock.

Synchronizing to external MIDI realtime commands

Set **"MIDI Clock"** (GLOBAL 2.1-1a) to **External**.
In Sequencer mode, song start, continue, and stop messages can be received to control song playback and recording in the same way as if this instrument's [START/STOP] key had been pressed. The KARMA function will also be controlled as if the [STOP/START] key had been pressed. (☞" Synchronizing with song start/stop")
Song position pointer messages can also be received to control the location of the song, just as if an operation had been performed on this instrument to change the location, and the KARMA function will be controlled in the same way as when the location is changed on the workstation itself.
In Program and Combination modes, song start, continue, and stop messages can be received to control the KARMA function.

- If song start, continue, or song position pointer messages are received while the KARMA function is operating, the KARMA function will be reset, and will start from the beginning of the phrase or pattern.
- If song stop is received, the KARMA function will stop.

Global mode

In Global mode you can make settings that affect entire this instrument, such as user scales, category names, drum kits (☞PG p.133).

This chapter will describe the procedure for editing a drum kit. For details on the parameters of other pages (☞p.101).

When you play the keyboard in Global mode, this instrument will sound as in the previous mode in which you were previously.

The settings that you edit in Global mode are preserved as long as the power remains on, but will be lost when the power is turned off.
The data handled in Global mode can be classified into three types: **drum kit settings** (GLOBAL 5.1), and all other **global settings** (GLOBAL 1.1–4.1, 6.1). Each of these three types of data can be written into the memory area. In Disk mode, this data can also be saved on a floppy disk (☞p.40).

Global mode does not provide a Compare function that lets you make before-and-after comparisons of your editing. Before editing user drum kits, you may wish to use "Copy Drum Kit" to copy the user drum kit to an unused number.

Creating a drum kit

About drum kits

A drum kit consists of drum samples (PCM drum waveform data) assigned to each note, with individual adjustments for pitch and level, etc.
This instrument has **64** drum kit memory areas. With the factory settings, **00 (A/B)–15 (A/B)** contain preloaded drum kits suitable for a variety of musical styles. **64 (GM)–72 (GM)** contain nine different preset drum kits that are compatible with the GM2 sound map. (☞For details on the factory-set drum kits, refer to "VNL".)
In GLOBAL 5.1: DKit you can modify these drum kits or create your own drum kit from scratch.
Drum kits you edit or create can be written to a user drum kit **00 (A/B)–63 (User)** in the drum kit memory area. In Disk mode you can also save these drum kits to floppy disk.

16 (C)–31 (C) and 32 (D)–47 (D) are provided for use with the preset patterns included with some separately sold EXB-PCM series options. Drum kits you create by editing these should be saved in 48–63 (User).

Multisample programs and drum kit programs

There are two types of programs: those whose oscillator uses a **multisample**, and those whose oscillator uses a **drum kit**.
This selection is made by the PROG 2.1 Ed-Basic, Prog Basic page **"Mode (Oscillator Mode)"** setting. To use a **multisample** for the program, set **"Mode (Oscillator Mode)"** to **Single** or **Double**. To use a drum kit, set **"Mode (Oscillator Mode)"** to **Drums**.

About program parameters

Just as the character and effect processing of a melodic instrument such as piano, organ, trumpet, and strings is fundamentally different from that of percussion instruments such as drums or timpani, the program parameter structure of a multisample program (**"Mode (Oscillator Mode)"** to **Single** or **Double**) is fundamentally different from that of a drum kit program (**"Mode (Oscillator Mode)"** to **Drums**).
The program parameters of a multisample specify filter and amp settings etc. appropriate for a multisample. For this reason, it is difficult to change such a program for use with a drum kit. Thus if you wish to edit a drum kit, you should first use Program mode to select a program that uses a drum kit (**"Mode (Oscillator Mode)"** = **Drums**), and then move to the GLOBAL 5.1: DKit page. Programs that use a drum kit have filter, amp, and effect settings suitable for drum sounds. It is best to first select a drum kit program in Program mode, and then do your editing in Global mode.

Editing a drum kit

Before editing a drum kit, uncheck the Memory Protect (☞p.38).

① **In PROG 1.1: Play, select the program that you wish to use while editing the drum kit.**

Select a drum kit program from the preload programs etc. If the drum kit that you will be editing is already being used by a program, select that program. (In the separate "VNL," programs that use a drum kit are marked by a ⓓ symbol.)

Set "Octave" to **+0 [8']**. With a setting other than **+0 [8']**, the relation between the keys and the sounds will be incorrect.

The effects will sound using the settings of the last-selected program.

When you edit a drum kit, all programs that use that drum kit will be affected.

② **Access the High Sample page of GLOBAL 5.1: DKit.**

GLOBAL 5.1:DKit High Sample:Drum Kit
Drum Kit: 00(A/B) : Standard Kit
"Key"
C4 Assign Level H:+99 L:+99 Vel. SW L→H:075
High ROM 0001: BD-Dry 2 S.Ofs Rev
Trans:+00 Tune:-50 Fc:+00 Reso:+00 At:+00 Dc:+03
High Low Voice
Key- Key+ UTILITY
"Drumsample Bank"
"Drumsample"

③ **In "Drum Kit," select the drum kit that you wish to edit.**

If necessary, use the Utility "Copy Drum Kit" to copy settings from a preload drum kit or a GM drum kit.

GM drum kits **64 (GM) – 72 (GM)** cannot be selected here. (It is not possible to edit or write a GM drum kit.) If you wish to modify the settings of one of the drum kits **64 (GM) – 72 (GM)**, you can use "Copy Drum Kit" to copy it to **00 (A/B) – 63 (User)**, and then edit the copy.

④ **Use "Key" to select the note number that you wish to edit.**

The drum sample parameters for the selected note number will be displayed in the High Sample, Low Sample, and Voice/Mix pages. In addition to using the VALUE controllers, you can also use the following methods to select the note number.

- Hold down the [ENTER] key and play a key on the keyboard to input that note number.
- Use the [F6]("Key–") and [F7]("Key+") keys to increment or decrement the note numbers.

⑤ **Use "Assign" to specify whether a drum sample will be assigned to the note number.**

If this is **checked**, a drum sample will be assigned to that note number. Normally you will check this.
If this is **not checked**, no drum sample will be assigned to that note number. That note number will sound the drum sample assigned at its right, but a semitone lower. Use this setting when you want only to change the pitch, such as with tom or cymbal sounds.

⑥ **Use "Drumsample Bank" and "Drumsample" to select the drum sample that will be assigned to the note number.**

Set the High Drumsample in the High Sample page, and the Low Drumsample in the Low Sample page.
If you specify a Low Drumsample, use "Vel.SW L→H" to specify how velocity will switch between the High Drumsample and the Low Drumsample. (☞⑦)

By setting **"Drumsample Bank"** to **ROM** you can select ROM drum samples, or to **EXB*** to select drum samples from a separately sold EXB-PCM series option.

Some EXB-PCM series boards do not contain drumsamples.

About ROM drumsamples

This instrument contains 413 drumsamples in its internal ROM memory.

You can use the "Select by Category" utility to select ROM drum samples from fifteen categories.
For the drumsample names, refer to the separate "VNL."

⑦ **Use "Vel. SW L→H" to specify how velocity will switch between drumsamples.**

The drumsample that sounds when you perform will depend on the velocity (keyboard playing strength) of the incoming note. This is called **velocity drumsample switching**.
If you set this to **001**, only the High Drumsample will sound.

☞ This is the same type of function as the Velocity Multisample Switching in a program. (☞p.44 "High Multisample and Low Multisample")

⑧ **Set the parameters of the drumsamples that you assigned.**

Set the High Drumsample parameters in the High Sample page, and the Low Drumsample parameters in the Low Sample page.
You can set parameters such as volume level ("Level"), pitch ("Trans," "Tune"), and tone ("Fc," "Reso").
For details on each parameter, refer to PG p.142.

⑨ **As necessary, repeat steps ④–⑧ to set drumsample parameters for each note number.**

If you wish to use the settings of another "KEY," select the "Copy Key Setup" utility.

⑩ **Select the Voice/Mixer page in GLOBAL 5.1: DKit.**

GLOBAL 5.1:DKit Voice/Mixer:Exclusive Group
Drum Kit: 00(A/B) : Standard Kit
F#4 Assign Level H:+56 L:+44 Vel. SW L→H:105
Single Trig Enable Note On Pan:R084 S1:000
Excl Group:001 Enable Note Off BUS:L/R S2:017
High Low Voice
Key- Key+ UTILITY

⑪ **Set the "Excl Group."**

The "Excl Group" setting is used when you wish to group drumsamples of the same type.
For example if the note number to which a open hi-hat and a closed hi-hat drumsample are assigned are set to the same exclusive group number, they will be grouped so that the open hi-hat and closed hi-hat can not be sounded simultaneously, ensuring that the hi-hat performance will sound natural.

⑫ **Use "BUS" to specify the output routing.**

Set this when you wish to send the output of the drumsample assigned to each note number to its

own insert effect or AUDIO OUTPUT (INDIVIDUAL) jack 1–2.
For example you might set snare-type sounds to **IFX1** and kick sounds to **IFX2**, so that these sounds would be sent to insert effects 1 and 2 respectively. If you wish to send only specific drumsamples to AUDIO OUTPUT (INDIVIDUAL) jacks 1, 2, select **1,2** or **1/2**.
These settings are valid if "Use DKit Setting" (PROG 7.1: Ed-BUS, BUS page) is **checked** for the program that uses this drum kit (☞PG p.37, 161).

⑬ **Use "Pan" to specify the stereo output position.**

The setting you make here is valid if the **"Use DKit Setting"** is **checked** (PROG 5.1: Ed-Amp1, Level/Pan page) for the program that uses this drum kit.

⑭ **Use "S1 (Send1(MFX1))" and "S2 (Send2(MFX2))" to set the send levels to the master effects.**

The settings you make here are valid if the **"Use DKit Setting"** is **checked** (PROG 7.1: Ed-BUS, BUS page) for the program that uses this drum kit.

⑮ **Use the "Write Drum Kits" utility to save the data.**

If you wish to change the name of the drum kit before you save it, use the "Rename Drum Kit" utility (☞p.39).

If you turn off the power before writing the data into memory, your edits will be lost (☞p.40 "Memory in Global mode").

Disk mode

How Disk mode is organized

In Disk mode you can use floppy disks to save or load various types of data. You can also make settings related to saving and loading functionality.

Types of media that can be used

Floppy disks

This instrument can use **MS-DOS format 3.5 inch 2HD** or **2DD** floppy disks. The capacity of a floppy disk after formatting will be 1.44 MB (18 sectors/track) for a 2HD disk, or 720 KB (9 sectors/track) for a 2DD disk. (☞For details on formatting, refer to PG p.156.)

note We recommend that you use 2HD floppy disks.

note When you insert disk for the first time after turning on the power, or after changing disks, you must press a function key etc. to make this instrument detect the disk. When the disk is recognized, disk information will appear in the LCD screen.

Loading data

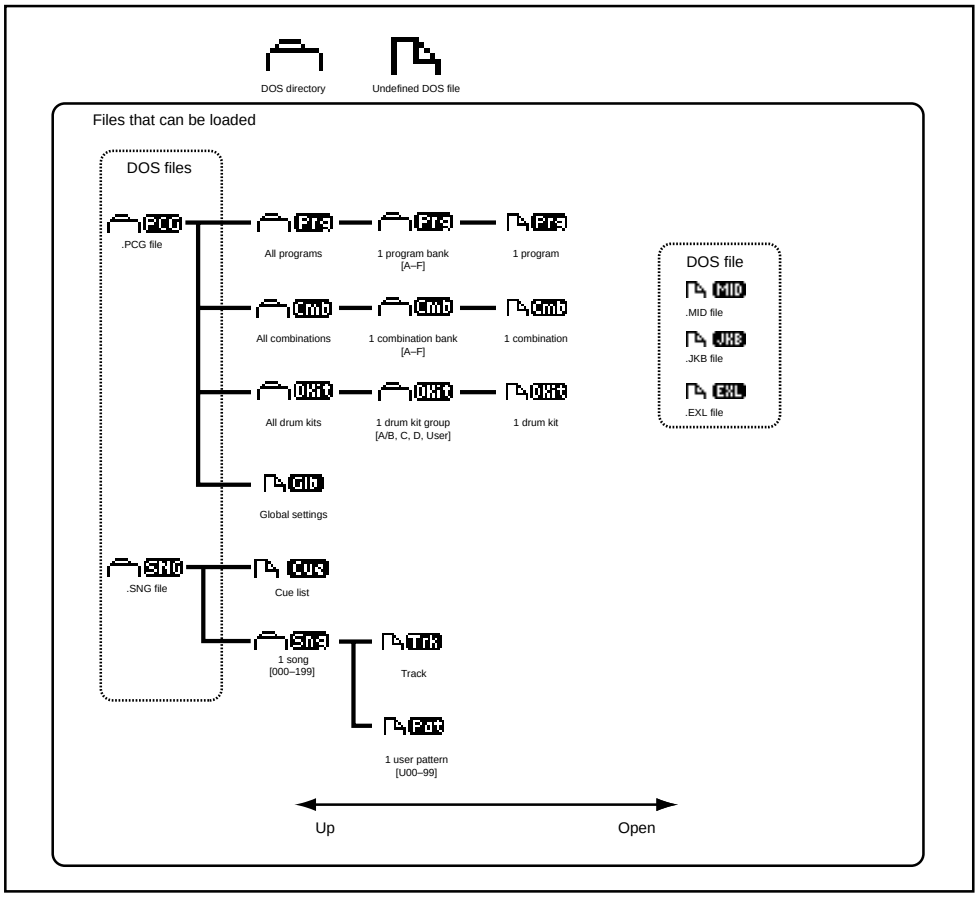
Types of data that can be loaded

The data that can be loaded from floppy disk is shown in the diagram at the bottom of the previous page. (☞For details on each type of data, refer to PG p.149)

Data loading procedure

Loading Programs, Combinations, Drum kits, and Global settings (loading a .PCG file)

Select this when you wish to reload programs or combinations that you created and saved using "Save All" or "Save PCG," or when you wish to restore the preloaded data (factory settings) from the included floppy disks.
You will normally use this method to **load a .PCG file from a floppy disk that was included with the separately sold EXB-PCM series option or EXB-MOSS option**.



Before loading programs, combinations, songs, and drum kits you must turn off memory protect in Global mode (☞p.38).

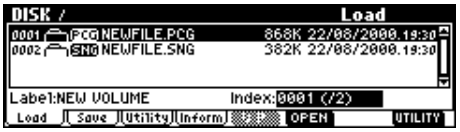
Here, as an example, we will load the .PCG file from the included floppy disk. A .PCG file contains programs, combinations, drum kits, and global settings. (☞p.93)

① **Insert the floppy disk into the floppy disk drive of this instrument.**

For details on handling floppy disks, please be sure to read "Cautions when handling floppy disks" (☞p.95)

② **Press the [Disk] key to enter Disk mode.**

The disk will be recognized when you press the [Disk] key.



③ **Select the Load page.**

File information will be displayed in the LCD screen.

④ **Select a .PCG file.**

The selected file will be highlighted in the display.

note If the data you wish to load is located in a lower or higher directory level, use [F6] ("OPEN") or [F5] ("UP") keys to display the desired data, and then select it.

When you load a .PCG file, the data in the internal memory of this instrument will be overwritten with the data of that .PCG file (programs, combinations, drum kits, global settings). If you wish to keep the data that is currently in internal memory, you must execute "Save All" or "Save PCG" to save it before you load other data.

⑤ **From the utility menu, choose "Load Selected."**

A dialog box will appear. The dialog box and its settings and operation will differ depending on the type of file that you load. For details on each file, refer to PG p.149.

⑥ **If "Load *******.SNG too" is checked when you load the data, the .SNG file will also be loaded at the same time that the .PCG file is loaded. (PG p.151)**

⑦ **Press the [F8] ("OK") key to execute the Load operation.**

Never remove the media while data is being loaded.

Loading the floppy disk included with separately sold options

Loading a .PCG file from the floppy disk included with a separately sold EXB-PCM series option

When loading EXB-PCM series programs and combinations, use the following procedure. When doing so, you will specify the loading destination bank (C, D) in step ④.
To load the data into bank C, select "**C_BANK.PCG**."
To load the data into bank D, select "**D_BANK.PCG.**"

When you load "**C_BANK.PCG**," the programs and combinations of banks A, B, and C, all drum kits, and global setting data will be loaded into the internal memory area of this instrument, and any prior data will be overwritten.

When you load "**D_BANK.PCG**," the programs and combinations of banks A, B, and D, all drum kits, and global setting data will be loaded into the internal memory area of this instrument, and any prior data will be overwritten.

Depending on the EXB-PCM .PCG data that you are loading, the category names of the combinations displayed may differ from the category names displayed by the TRITON series.

Loading the .PCG files and .SNG files from the floppy disk included with the EXB-MOSS

☞ Refer to PG p.270 "EXB-MOSS option -- Loading the preloaded data"

If you wish to preserve the data of the internal memory area, use "Save All" or "Save PCG" before you continue.

The .PCG files and .SNG files on the floppy disk included with the EXB-PCM series or the EXB-MOSS are for the TRITON series. (As of December 2000.)

Since this instrument does not have the arpeggiator function found on the TRITON series, the arpeggiator-related parameters included in each program, combination, and song will be ignored when the .PCG or .SNG file is loaded, and will not be used.

These .PCG and .SNG files do not contain settings for the KARMA function. When they are loaded, all parameters related to the KARMA function will be reset to the default values.

Also, the category of the programs or combinations may be inappropriate in some cases. Refer to PG p.260 for details of data compatibility with the TRITON series.

Saving data

For the procedure of saving data to a floppy disk, refer to "Saving on floppy disks" (☞p.40).

Types of data that can be saved

The following types of data can be saved on external media (floppy disk).

- **.PCG files**
  Programs, combinations, global settings, drum kits (the data specified by the "S.Item" (Select Save Items) check boxes when saving will be saved).
- **.SNG files**
  Songs, cue lists, and pattern
- **Standard MIDI files (SMF)**
  Sequencer mode songs can be saved as SMF data.
- **System exclusive data**
  System exclusive data received by this instrument from an external MIDI device (this instrument can be used as a data filer).

note For details on each type of file and the icon associated with it, refer to the lower diagram on page p.93.

Formatting a disk

Floppy disks must be formatted.
A disk that is not in MS-DOS format cannot be used as is. Such a disk must be formatted before it can be used with this instrument.
For the formatting procedure, refer to "Format" (☞PG p.156).

Cautions when handling floppy disks

When handling floppy disks, please observe the following points. Data loss may occur if a floppy disk is handled improperly.

Floppy disk type and format

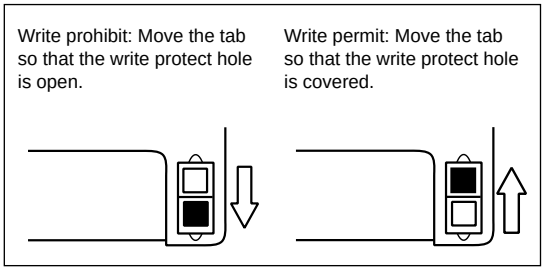
This instrument can use 2HD or 2DD 3.5 inch floppy disks.

Floppy disk handling

- Do not open the shutter of a floppy disk or touch the magnetic surface inside the disk. If the magnetic disk becomes soiled or scratched, it will no longer be possible to read data format.
- Never transport this instrument with a floppy disk in the disk drive. Vibration may cause the disk drive heads to scratch the floppy disk, making it unusable.
- Do not allow a floppy disk to be placed near a device that emits a magnetic field, such as a television, computer, computer display, speaker, or power supply transformer. This can erase data on the disk.
- Do not use or store floppy disks in locations of excessive temperature or humidity, in direct sunlight, or in dusty or dirty locations.
- Do not place objects on top of a floppy disk.
- While the disk drive is operating, do not attempt to remove the floppy disk, and do not subject this instrument to physical shock.

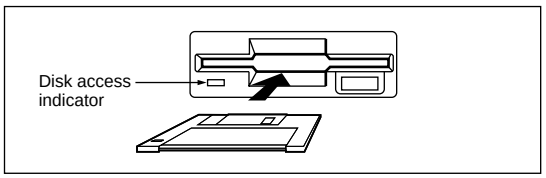
Floppy disk write protect

Floppy disks have a small write protect hole that can be used to prevent data from being erased or rewritten accidentally.
After saving data to disk, move the write protect tab so that the hole is uncovered. This will prohibit writing to the disk, and will prevent the data from being destroyed accidentally.


Write prohibit: Move the tab so that the write protect hole is open.
Write permit: Move the tab so that the write protect hole is covered.

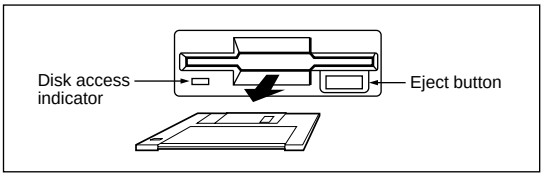
Inserting a floppy disk

With the label of the floppy disk facing upward, insert it into the disk drive. Press the disk inward until it clicks into place.
Malfunctions will occur if you use excessive force to insert the disk. Disks must be inserted gently, and straight in.



Removing a floppy disk

To remove a floppy disk, first make sure that the disk access indicator is dark. Then press the eject button and remove the disk.
If the disk does not come out when you press this button, do not attempt to remove the disk by force. Please contact your dealer.



Head cleaning

If the heads of the disk drive are become soiled, errors may occur during saving, loading or formatting. It is important to clean the heads regularly using a commercially available wet-type 3.5 inch double-sided head cleaning disk. For the cleaning procedure, refer to the owner's manual for the cleaning disk.

Effects settings

The effect section of this instrument provides five **insert effects**, two **master effects**, one **master EQ** (stereo 3-band EQ), and a **mixer** that controls the routing of these components.
You can choose from **102 types** of full-digital effects for each insert effect, and from **89 types** for each master effect. The effects are categorized as follows.

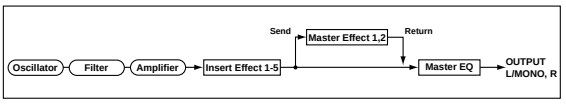
Categories of the 102 effect types

001–015	Filter and dynamics effects, such as EQ and compressor
016–031	Pitch and phase modulation effects, such as chorus and phaser
032–040	Other modulation and pitch-shift effects such as rotary speaker and pitch shifter
041–051	Early reflection and delay effects
052–057	Reverb effects
058–089	Mono and mono-chain effects in which two mono effects are connected in series
090–102	Double-size effects (cannot be used as master FX)

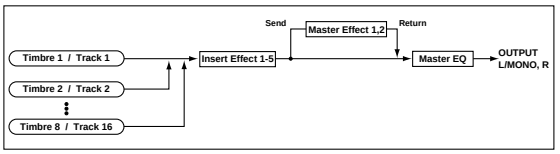
Effects **000–089** can be selected for IFX1, 2, 3, 4, 5, or MFX 1 or 2. Effects **090–102** are double-size effects, and will use twice the processing area of other effects. They can be selected for IFX2, IFX3 or IFX4.

Effects in each mode

In **Program mode**, **insert effects** can be used as part of the sound-creating process, in the same way that the output sound of the oscillator (OSC) is processed by the filter and amp to create the final sound. Then the **master effects** can be used to apply spatial-type effects such as reverb. The stereo 3-band **master EQ** located immediately before the OUTPUT (MAIN) L/MONO and R outputs is used to make final adjustments in tone. These settings can be made independently for each program.



In **Combination mode**, **Sequencer mode**, and **Song Play mode**, **insert effects** can be used to help create the sound of each timbre/track. The **master effects** are used to apply overall spatial processing, and the **master EQ** is used to make overall adjustments in tone. These settings are made in Combination mode independently for each combination, in Sequencer mode for each song, and in Song Play mode for the entire mode.



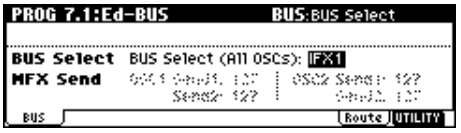
Routing settings and effect settings

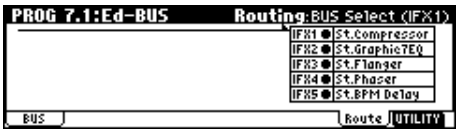
The insert effects, master effects, and master EQ have the same structure in all modes, but the routing settings will determine how the oscillators of a program or the timbres of a combination or track of a song will be sent to each insert effect or master effect. In the pages that follow, we will explain how you can make routing settings and effect settings in each mode.

Effect settings for a program

Routing

① **Select the PROG 7.1: Ed-BUS, BUS page.**





② **Use "BUS Select (All OSCs)" to specify the bus (insertion effect) to which the output of the oscillator will be sent.**

L/R: The output will not be sent to the insert effects. After passing through the master EQ, the sound will be sent to AUDIO OUTPUT (MAIN) L/MONO and R.
IFX1–5: The output will be sent to insert effect IFX 1, 2, 3, 4, or 5.
1, 2, 1/2: The output will be sent to AUDIO OUTPUT (INDIVIDUAL) 1 or 2. It will not be sent to the insert effects, the master effects, or the master EQ.
Off: The output will not be sent to AUDIO OUTPUT (MAIN) L/MONO, R, or to (INDIVIDUAL) 1, 2. (After passing through the master effects, it will be output from AUDIO OUTPUT (MAIN).) Select this when you wish to connect the output to the master effects in a series connection at the send levels specified by "MFX Send."

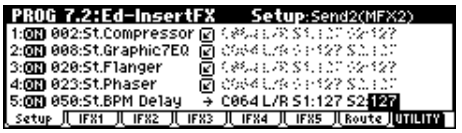
note The Routing page displays the status of routing, insert effects, and chain settings. In this page you can also make "BUS Select" settings. Use the VALUE [▲], [▼] keys, the [VALUE] slider, and [VALUE] dial to specify the send destination to the insert effect.

③ **"MFX Send" specifies the send level from each oscillator to the master effects.**

This is valid only if **"BUS Select (All OSCs)"** is set to **L/R** or **Off**.
If **IFX1–5** is selected for "BUS Select (All OSCs)," the send level to the master effects is adjusted by the "Send 1 (MFX1)" and "Send 2 (MFX2)" parameters (PROG 7.2: Ed-Insert FX, Setup page) after the signal has passed through the insert effects.

Insert effects

④ **Select the PROG 7.2: Ed-InsertFX, Setup page.**



⑤ **For "Insert Effect 1"–"Insert Effect 5," select the effect type for each insert effect.**

note The "Select by Category" utility lets you select effects from six categories.

Double-size effects **090–102** can be used only for IFX 2, 3, or 4.

⑥ **Use "On/Off" to switch each insert effect on/off.**

A setting of **Off** will be the same state as when 000: No Effect is selected. The input sound will be output without change.

note The "Copy Insert Effect" utility lets you copy effect settings from another program etc. The "Swap Insert Effect" utility lets you exchange the settings of two insert effects, such as IFX1 and IFX5.

⑦ **Specify the "Chain" setting.**

If you set "Chain" to ☑, insert effects will be connected in series. If you send the oscillator output to IFX1 as shown in the illustration for step ① and make settings as shown in illustration ④, the signal will be sent in series through the five insert effects IFX1→IFX2→IFX3→IFX4→IFX5, and will finally be output.

⑧ **Make settings for "Pan(CC#8),""BUS Select," "S1 (Send1(MFX1)),"" S2 (Send2(MFX2))" for the sound after it has passed through the insert effects.**

If the insertion effects are chained, these settings will apply after the last IFX.
"Pan(CC#8)": Set the pan. This is valid only when **"BUS Select"** is **L/R**.
"BUS Select": Specify the output destination. Normally you will set this to **L/R**. If you wish to send the sound that has passed through the insert effects to AUDIO OUTPUT (INDIVIDUAL) 1, 2, select **1, 2**, or **1/2**.
"S1 (Send1(MFX1)),"" S2 (Send2(MFX2))": Set the send levels to the master effects. For this example, set this to **127**.

⑨ **Select the IFX1–IFX5 pages, and set the parameters for each of the selected effects.**

For details on the parameters of each effect (☞PG p.168–).

Master effects

The input levels to the master effects are set by the "Send Level 1, 2" (step ③ or ⑧). If "Send Level 1, 2" are **zero**, the master effects will not apply. "Send Level 1" corresponds to MFX1, and **"Send Level 2"** corresponds to MFX2.

⑩ **Select the PROG 7.3: Ed-MasterFX, Setup page.**

⑪ **In "Master Effect1" and "Master Effect2," select the type of each master effect.**

The procedure is the same as when selecting an insertion effect (☞step ⑤).

The master effects cannot use double-size effects.

The master effects are mono-in/stereo-out. Even if a stereo-input effect is selected, it will function as mono input.

⑫ **Use "On/Off" to specify the on/off status of each master effect.**

With a setting of **Off**, the output of the master effect will be muted.

⑬ **Use "Rtn (Return1, 2)" to adjust the output levels of the master effects.**

In the **"W/D"** (Wet/Dry) setting of each effect, the **W** setting is the effect output level. This value multiplied by the value of the return setting (i.e., x1.0 if "Rtn" = **127**) to determine the actual master effect output level.

⑭ **Select the MFX1 and MFX2 pages, and set the parameters for each selected effect.**

For details on the parameters of each effect, refer to PG p.168.

Master EQ

⑮ **Use the stereo 3-band master EQ to make final equalizing adjustments immediately before the sound is output from the AUDIO OUTPUT L/MONO and R jacks.**

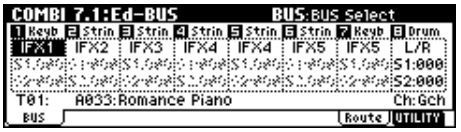
Master EQ settings can be made in "Master EQ Gain [dB]" of the PROG 7.3: Ed-Master FX, Setup page, or in the Master EQ page.
For details on master EQ parameters, refer to PG p.220.

Effect settings for Combination, Song, and Song Play

In Combination, Sequencer, and Song Play modes, routing settings for the insert effects and master effects can be made separately for each timbre/track. The method for making these settings is the same in each of these modes. As an example here, we will describe the procedure for a combination.

Routing

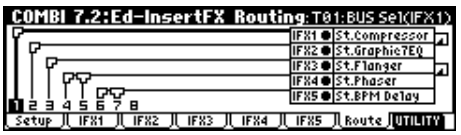
① **Select the COMBI 7.1: Ed-BUS, BUS page.**


COMBI 7.1:Ed-BUS BUS:BUS Select
1 Keyb 2 Strin 3 Strin 4 Strin 5 Strin 6 Strin 7 Keyb 8 Drum
IFX1 IFX2 IFX3 IFX4 IFX4 IFX5 IFX5 L/R
S1:000
S2:000
T01: A033:Romance Piano Ch:6ch
BUS Route UTILITY

② **Select "BUS Select." Here you can specify the bus (insert effect) to which the output of each timbre will be sent.**

The Routing page displays the status of routing, insert effects, and chain settings. In this page you can also make "BUS Select" settings. Use the cursor keys [◄] [►] to select a timbre, and use the VALUE [▲], [▼] keys, the [VALUE] slider, and [VALUE] dial to specify the send destination to the insert effect.

In this example, T01 (timbre 1) uses IFX1 and 2. T02 uses IFX2, T03 uses IFX3 and 4, T02 and T05 use IFX4, and T06 and T07 use IFX5. Selection of each effect type, the on/off setting, and chain settings are made in the COMBI 7.2: Ed–InsertFX, Setup page.



In COMBI 7.2: Ed–InsertFX, Routing page too, you can use the cursor keys [◄] [►] to select the timbre, and the VALUE [▲], [▼] keys to specify the bus.

③ **"S1 (Send1(MFX1)),"** "S2 (Send2(MFX2))" **specifies the send level from each timbre to the master effects.**

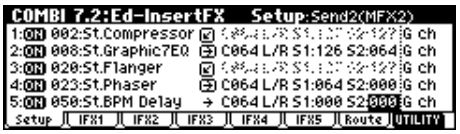
This can be set only if "BUS Select" is set to **L/R** or **Off**.

The actual send level will be the send level of each timbre multiplied by the send level of each oscillator of the program selected for the timbre. If the send level of a program is **0**, the actual level will be **zero** even if the send level setting is raised here.

If **IFX1–IFX5** is selected for "BUS Select," set the send levels to the master effects by adjusting the "S1 (Send1(MFX1))" and "S2 (Send2(MFX2))" parameters (COMBI 7.1: Ed-Insert FX, Setup page) located after the signal has passed through the insert effects.

Insert effects

Here you can select the effects for each IFX1–IFX5, adjust the "Pan (CC#8)" setting that follows each insert effect, and specify "BUS Select," "S1 (Send1(MFX1)),"and "S2 (Send2(MFX2))." If insert effects are connected in series, the setting after the last IFX will be valid. Use "S1 (Send1(MFX1))" and "S2 (Send2(MFX2))" to adjust the depth of the master effects after the signal has passed through the IFX. These settings are made in the same way as for programs (☞p.90).


COMBI 7.2:Ed-InsertFX Setup:Send2(MFX2)
1:ON 002:St.Compressor
2:ON 008:St.Graphic7EQ C064 L/R S1:126 S2:064 G ch
3:ON 020:St.Flanger
4:ON 023:St.Phaser C064 L/R S1:064 S2:000 G ch
5:ON 050:St.BPM Delay → C064 L/R S1:000 S2:000 G ch
Setup IFX1 IFX2 IFX3 IFX4 IFX5 Route UTILITY

Master effects
Master EQ

These settings are made in the same way as for programs (☞p.98).

About dynamic modulation (Dmod)

Dynamic modulation (Dmod) is a function that lets you use MIDI messages or this instrument's controllers to control specific effect parameters in realtime.
BPM/MIDI Sync is another function that controls effect parameters, and is used to synchronize the LFO speed of modulation-type effects or the delay time etc. of delay-type effects to the tempo of the KARMA function or an external sequencer.
For details on each of these functions, refer to PG p.227.

Setting example:

We will show how you can use dynamic modulation to control an effect parameter in realtime.

① **As described in the procedure for "Effect settings for a program" (**☞p.98**), set "IFX1" to 049: LCR BPM Delay. Verify that a delay sound is being output.**

② **Select the PROG 7.1: Ed-Insert FX, IFX1 page.**

Using the Dmod function to vary the delay level by pushing the joystick away from yourself

③ **Set "InLvl Mod" to +100.**

④ **Set "Src" to JS+Y#1.**

The joystick will control the input level to the effect. When you set **"Src"** to **JS+Y#1**, the delay sound will no longer be output; however it will gradually increase as you move the joystick away from yourself.

Using the Dmod function to vary the feedback level by operating" [SW1] key

⑤ **In the PROG 2.2: Ed-Ctrl, Controls page, set the function of [SW1] key to SW1 Mod. (CC#80), Toggle.**

⑥ **Return to the PROG 7.1: Ed-Insert FX, IFX1 page, and set the C Fb (C Delay Feedback) "(Source)" to SW1 #80.**

⑦ **Set "(Amount)" to +30.**

⑧ **When you (move the joystick away from yourself and) press the [SW1] key, the feedback level will increase, and the delay sound will continue repeating more times.**

The "(Amount)" setting determines the feedback level when the [SW1] key is pressed. If you set **"(Amount)"** to **–10** and press the [SW1] key, the feedback level will be **0**.

Using the BPM/MIDI Sync. function to modify the delay time in synchronization with tempo changes of the KARMA function

⑨ **Set "BPM" to MIDI.**

⑩ **For L, C, and R, set "L/C/R Bs" and "Times" as desired.**

For this example, set **"L/C/R Bs"** to ♪ and **"Times"** to **1** so that the effect will be easily understandable. The delay time will repeat at an interval of a 8th note.

⑪ **Turn the [TEMPO] knob.**

When you (move the joystick away from yourself and) rotate the knob, the delay time will change.

⑫ **Turn on the KARMA [ON/OFF] key and begin playing.**

(Move the joystick away from yourself and) select the pattern that you want KARMA to play.
When you turn the [TEMPO] knob, the delay time will change in synchronization with the change in KARMA playback tempo.

If you rotate the [TEMPO] knob to change the tempo while the delay is sounding, noise may occur in the delay sound. This is because the delay sound becomes discontinuous, and is not a malfunction.

note For some effects, you can synchronize the LFO frequency to the tempo. Set the effect parameters **"BPM/MIDI Sync"** to **On**, and **"BPM"** to **MIDI**. For details refer to PG p.173.

Other functions

Tuning to another instrument/ Transposing

When you play this instrument together with other instruments, or along with music on a CD or tape, you may need to adjust the tuning so that the pitch matches. To adjust the tuning, use GLOBAL 1.1: System Basic page "Master Tune." The tuning can be adjusted in a range of –50 – +50 cents (one semitone is 100 cents).

You can also transpose by changing the pitch in semitone steps. To transpose the pitch of the entire this instrument, use GLOBAL 1.1: System Basic page "Key Transpose." The pitch can be transposed over a range of ±1 octave.

Here we will explain how to adjust the tuning and transposition of the entire this instrument in Global mode.

① **Press the [GLOBAL] key to enter Global mode.**

② **Press the [EXIT] key.**

③ **Press the [F1] ("Basic") key.**

④ **To adjust the tuning, select "Master Tune." to adjust the transposition, select "Key Transpose."**

⑤ **Use the VALUE controllers to adjust the setting.**

You can use numeric keys [0]–[9] to enter a value and press the [ENTER] key. Alternatively, you can use the [VALUE] dial, the [VALUE] slider, or the VALUE [▲], [▼] keys.

note If you wish to keep this setting after the power is turned off, you must Write. (☞p.40)

Bypassing the effects

Normally, effects are turned on/off within each program, combination, or song, or in Sampling mode or Song Play mode. However if you want the entire this instrument not to use its insert effects or master effects, you can bypass these effects.

① **Press the [GLOBAL] key to enter Global mode.**

② **Press the [EXIT] key.**

③ **Press the [F1] "(Basic)" key.**

④ **To turn off insert effects 1–5, check the "IFX1-5 Off" check box.**

To turn off master effect 1, check the "MFX1 Off" check box. To turn off master effect 2, check the "MFX2 Off" check box.

Specifying the function of the ASSIGNABLE Switch and ASSIGNABLE Pedal

Set the function of an assignable switch (separately sold option, Korg PS-1) connected to the **ASSIGNABLE SWITCH** jack.

This switch can act as a source for alternate modulation or effect dynamic modulation, or switch portamento on/off, control the sostenuto effect, turn the soft pedal effect on/off, turn the arpeggiator on/off, select programs or combinations (up/down), start/stop the sequencer, punch-in/out on the sequencer, or be a trigger to advance the cue list step (☞PG .232).

- This setting is made in GLOBAL 6.1: Controller Foot page "Foot SW Assign."

You can specify the function that will be performed by an assignable pedal (the separately sold Korg XVP-10 or EXP-2) connected to the **ASSIGNABLE PEDAL** jack.

This pedal can be used to control master volume, alternate modulation or effect dynamic modulation, portamento pitch change speed, volume, the pan following an insert effect, pan, expression, effect control, or send levels to the master effects (☞PG p.233).

- This setting is made in GLOBAL 6.1: Controller Foot page "Foot Pedal Assign."

note You can use this as a source for alternate modulation or effect dynamic modulation, and use it to control program parameters or effect parameters. In this case, set **"Foot Switch Assign"** to **Foot SW (CC#82)**, and **"Foot Pedal Assign"** to **Foot Pedal (CC#04)**.

Here we will show how to make settings that allow an assignable switch to change programs or combinations.

① **Connect a Korg PS-1 pedal switch (separately sold option) to the ASSIGNABLE SWITCH jack.**

② **Press the [GLOBAL] key to enter Global mode.**

③ **Press the [MENU] key, and then press the [F6] ("Ctrl") key and [F8] ("Open") key.**

④ **Press the [F1] ("Foot") key.**

⑤ **Select "Foot SW Assign," and select either Program Up or Program Down.**

If you select **Program Up**, the next higher program number will be selected each time you press the foot switch.
If you select **Program Down**, the next lower program number will be selected each time you press the foot switch.

⑥ **Set "Foot SW Polarity" to the polarity of the pedal you connected.**

If you connected a Korg PS-1 pedal switch, select **(-) KORG Standard**. The pedal will not function correctly if you do not select the correct polarity.

note If you wish to keep this setting after the power is turned off, you must Write. (☞p.40)

⑦ **Press the [PROG] key to enter PROG 1.1: Play, or press the [COMBI] key to enter COMBI 1.1: Play. Then press the foot switch, and the program/combination will change.**

Adjusting the way in which velocity or after touch will affect the volume or tone

You can adjust the way in which changes in velocity or after touch will affect the volume or tone. By changing this, you can (for example) make the volume of the notes more consistent even when they are played with varying velocities (dynamics). Each curve has its own character, so you can select the curve that is appropriate for your own playing dynamics, playing style, and the effect that you wish to obtain (☞PG p.113, 114).

① **Press the [GLOBAL] key to enter Global mode.**

② **Press the [EXIT] key.**

③ **Press the [F1] ("Basic") key.**

④ **To change the velocity curve, select "Velocity Curve" and specify the desired curve.**

To change the after touch curve, select "AfterT Curve," and specify the desired curve.

note If you wish to keep this setting after the power is turned off, you must Write. (☞p.40)

note This setting will affect the operation of the entire this instrument.

note Each program has parameters that allow you to adjust the effect of velocity (playing dynamics), and the change will depend on the settings of these parameters. These parameters can be individually set in detail in Program mode.

Creating original scales

You can create your own original scales. You can create sixteen different User Octave Scales in which the pitch of each note in the octave is repeated for all octaves, and one User All Note Scale in which the pitch of each of the 128 notes can be specified independently.

note If you wish to keep this setting after the power is turned off, you must Write. (☞p.40)

The user scales you create here can be used by specifying the scale for a program, for each timbre of a combination, or for each track of a song (☞p.102 "Changing the scale")

Changing the scale

You can specify the scale for each program, for each timbre in a combination, or for each track of a song (Sequencer/Song Play mode).

These settings are made by "Type" in the following pages, and by "Use Program's Scale" for a combination or song.

Program	PROG 2.1: Ed–Basic, Prog Basic
Combination	COMBI 3.2: Ed–Param2, Other
Sequencer	SEQ 3.2: Param2, Other (Othr..8/Othr..16)
Song Play mode	S.PLAY 3.1: Param, Status/Scale (Param..8/Prm..16)

Here we will show how to make settings in Sequencer mode.

① **Press the [SEQ] key to enter Multi mode.**

② **Press the [MENU] key, and then press the [F3] key to select "Prm2" Press the [F8] ("Open") key.**

③ **Select the [F1]("Othr..8") key or the [F2]("Othr..16") key.**

④ **If you wish to use the scale that is specified for the program used by a track, check the "Use Prog's Scale" check box for that track.**

Tracks that are not checked will use the scale specified by Scale "Type."

⑤ **Set "Type (Song's Scale)" to select the scale for the entire currently selected song.**

note If you wish to keep this setting aft,er the power is turned off, you must Write. (☞p.37–)

Setting the function of [SW1] and [SW2]

You can specify the function of the [SW1] and [SW2] keys (☞PG p.230).

The functions of the [SW1] and [SW2] keys are set independently for each program, combination, and song. In and Song Play mode, the functions of these keys are set for the entire mode.

You can specify the function that will be performed by the [SW1] and [SW2] keys, and can also select between **Toggle** (when the function will be switched on/off each time the [SW1] or [SW2] key is pressed) and **Momentary** (when the function will be on only while you continue holding the [SW1] or [SW2] key).

These settings are made by "Panel Switch Assign" in the following pages.

Program	PROG 2.2: Ed–Ctrl, Controls
Combination	COMBI 2.2: Ed–Ctrl, Controls
Squencer	SEQ 2.2: Controller, Controls
Song Play mode	S.PLAY 2.2: Controller, Controls

note When you write a program or combination, the on/off status of the [SW1] and [SW2] keys is memorized.

note You can use these keys as alternate modulation or effect dynamic modulation sources, and control program parameters or effect parameters.
In this case, you will normally select **SW1 Mod.(CC#80)** and **SW2 Mod.(CC#81)**.

For an example in which the [SW1] key is specified as an effect dynamic modulation source for a program and used to control an effect, refer to ☞p.100.

note If you wish to keep this setting aft,er the power is turned off, you must Write. (☞p.37–)

Setting the B-mode functions of REALTIME CONTROLS [1]–[4]

You can specify the B-mode functions of REALTIME CONTROLS knobs [1]–[4].

The B-mode functions are set independently for each program, combination, or song. The functions in Song Play mode are set for the entire mode.

These settings are made by "Realtime Control Knob B-Assign" in the following pages.

Program	PROG 2.2: Ed–Ctrl, Controls
Combination	COMBI 2.2: Ed–Ctrl, Controls
Sequencer	SEQ 2.2: Controller, Controls
Song Play mode	S.PLAY 2.2: Controller, Controls

note You can use these knobs as sources for alternate modulation or effect dynamic modulation, and control program parameters or effect parameters.
In this case, you will normally select **Knob Mod.1(CC#17)**, **Knob Mod.2(CC#19)**, **Knob Mod.3(CC#20)**, and **Knob Mod.4(CC#21)**.

Here we will give an example of how knob [1] can be used to control the filter and amp EG attack of a program.

① **Press the [PROG] key to enter Program mode.**

② **Press the [MENU] key, and then press the [F2] key to select "Ctrl" Press the [F8] ("Open") key.**

③ **Press the Knob B Assign "Knob 1-B" popup button, and select F/A Attack(CC#73).**

④ **Press the [SELECT] key to select B-mode, and turn knob [1] to control the EG attack of the filter and amp.**

note If you wish to keep this setting aft,er the power is turned off, you must Write. (☞p.37–)

Assigning MIDI control changes to the KARMA Realtime Controls knobs and keys

You can assign MIDI control change messages to the KARMA Realtime Controls knobs and switches. (☞PG p.146)
When you operate the KARMA Realtime Controls knobs or switches, the assigned control change message will be transmitted from the MIDI OUT connector. You can also control a KARMA Realtime Controls knob or switch by transmitting the corresponding control change message from an external MIDI device connected to the MIDI IN connector.

① **Press the [GLOBAL] key to enter Global mode.**

② **Press the [MENU] key, and then press the [F6] ("Ctrl") key, and [F8] ("Open") key.**

③ **Press the [F2] ("KARM1") key.**

④ **Press the [F8] ("UTILITY") key to open the utility menu, and press the [F7] key to select "Reset KARMA Ctrls Assign."**

⑤ **Press the [F8] ("OK") key.**

⑥ **Set "To:" to Default Setting, and press the [F8] ("OK") key.**

If you wish to turn off the assignments, set **"To:"** to **All Off** in step ⑥.
Normally you will turn this off, and make settings only when you need to assign MIDI control change messages.

note If you wish to keep this setting aft,er the power is turned off, you must Write. (☞p.37, ☞PG p.135)

Adjusting the contrast (brightness) of the LCD screen

Use the GLOBAL 1.1: System, Preference page "LCD Contrast" to make adjustments. (☞p.105, PG p.136)

Using this instrument as a data filer

MIDI exclusive data transmitted from an external device can be received by this instrument and saved on a floppy disk (the Data Filer function). This is done using the Disk mode Save page "Save Exclusive" (☞PG p.155).

Shortcuts

[MENU] key + numeric keys [0]–[9] x2

- Access the various pages within each mode. Hold down the [MENU] key, and use numeric keys [0]–[9] to input a two-digit page number.

[MENU] key + [◄], [►] keys

- Access the various pages within each mode. Hold down the [MENU] key, and use the [◄] [►] keys to move.

[TIMBRE/TRACK] key + function keys [F1]–[F8]

- Access the parameters within each page. In pages of Combination Sequencer, or Song Play mode that show timbres 1–8/tracks 1–8 or 9–16 (such as COMBI 1.1: Play, Prog), hold down the [TIMBRE/TRACK] key and press the [F1 T1/T9]–[F8 T8/T16] keys to move the cursor.

[ENTER] key + numeric keys [0]–[9]

- Access the utility menu commands of each page (up to ten items). Hold down the [ENTER] key and press a numeric key [0]–[9] to select from up to ten of the utility menu items.

[ENTER] key + keyboard

- Input note number values or velocity values
- Select "KEY" in GLOBAL 5.1: DKit, SEQ 5.1: RPPR, RPPR Setup page

[ENTER] key + [LOCATE] key

- In Sequencer mode and Song Play mode, set the current location as the "Location" (equivalent to the utility menu command "Set Location")

Appendices

Troubleshooting

If you experience problems, refer to the relevant item and take the appropriate measures.

Power does not turn on

- Is the AC/AC power supply connected to an outlet? ☞p.13
- Is the [POWER] switch turned on?
  Turn on the rear panel [POWER] switch. .....☞p.17

Power is on, but nothing is displayed in the LCD screen

- Perform the following procedure. (☞PG p.136)
  ① Press the [EXIT] key three times, and press the [GLOBAL] key.
  ② Hold down the [EXIT] key, and press the [WRITE] key.
  ③ Rotate the [VALUE] dial to adjust the LCD screen.

No sound

- Are connections made correctly to your amp, mixer, or headphones? .....☞p.13
- Is your amp or mixer turned on?
- Is Local Control turned on?
  In GLOBAL 2.1: MIDI, **check** the "Local Control On" check box. ..... PG ☞p.137
- Is the [VOLUME] slider raised? ..... ☞p.7, p.15
- If there is no sound from the OUTPUT (INDIVIDUAL) 1, 2 jacks, make sure that "BUS Select (IFX/Indiv.Out Assign)" or "Bus Select" following the insert effect is set to **1**, **2**, **1/2**, . . ☞p.98~
- If specific tracks in Sequencer mode or Song Play mode do not sound, Make sure that the "**PLAY/MUTE/REC"** or "**PLAY/MUTE"** is set to **PLAY**. ..... ☞p.60, p.75
  Make sure that the "Status" is **INT** or **BTH**. ..... ☞p.58, p.74
- Are the Key Zone and Velocity Zone set so that sound will be produced when you play? ..... PG ☞p.52, 85

Notes do not stop

- In PROG 2.1: Ed–Basic, select the Prog Basic page, make sure that the "Hold" check box is **unchecked**. ..... ☞PG p.7
- In GLOBAL 6.1: Controller, make sure that "Damper Polarity" or "Foot SW Polarity" is set correctly. ..... PG ☞p.145

Noise or oscillation is heard

- When using the BPM/MIDI Sync function to control the delay time of an effect, noise may occur in the delay sound. This noise is due to discontinuities in the delay sound, and is not a malfunction.

Effects are not applied

- Are the GLOBAL 1.1: System, Basic page "IFX1–5 Off," "MFX1 Off," or "MFX2 Off" settings **checked**? ..... ☞PG p.134
- If you are in Combination, Sequencer, or Song Play modes, and master effects are not applied when you raise the "S1 (Send1 (MFX1))" or "S2 (Send2 (MFX2))" of the timbre/track, does "Return 1" or "Return 2" from the master effect need to be raised? ..... ☞p.40, 67, 113
  Alternatively, has "Send 1" or "Send 2" for each oscillator of the program used by the timbre/track been lowered? ..... PG ☞p.65, 111

note The actual send level is determined by multiplying the send setting of each oscillator in the program with the send setting of the timbre/track.

Song does not playback correctly after data is loaded

- In the dialog box when saving the data, did you check the check boxes for each item that you wanted to save? ..... ☞p.41
- Are the program or combination banks/numbers the same as when you created the song? ..... PG ☞p.136

Playback does not start when you press the [START/STOP] key in Sequencer mode

- Is the GLOBAL 2.1: MIDI "Clock Source" set to **Internal**? ..... PG ☞p.137

Can't record in Sequencer mode

- Is the GLOBAL 1.1: Memory Protect "Song" check box unchecked? ..... PG ☞p.136
  Is the GLOBAL 2.1: MIDI "Clock Source" set to Internal? ..... PG ☞p.137

The KARMA function does not start playing

- Is the [ON/OFF] key on (lit)?
- If the KARMA module does not start playing in Combination, Sequencer, or Song Play mode, has "Run Check Box" been checked? Also, are the "Input Channel" and "Output Channel" settings appropriate? ..... ☞p.83, PG p.58, p.104, p.123
- Is the GLOBAL 2.1: MIDI "MIDI Clock" set to Internal? ..... PG p.137

RPPR does not start

- Is the SEQ 1.1: Play/REC "RPPR" setting checked? ..... ☞PG p.71
- Are "Assign," "Pattern Select," and "Track" set correctly? ..... ☞p.70, ☞PG p.93, 94
- If the GLOBAL 2.1: MIDI "MIDI Clock" parameter set to **Internal**? ..... ☞PG p.137

In Song Play mode, a GM/GS/XG-compatible SMF is not played correctly

- Execute "GM Initialize" to initialize the settings. ..... ☞PG p.116
- Is GLOBAL 1.1: System, Preference page "Bank Map" set to **GM(2)**? ..... ☞PG p.136
- Is S.PLAY 3.1: ParamStatus/Scale, Param…8 or Param…1 page "Status" set to **INT** or **BTH**? ..... ☞p.74, PG p.120

Settings for oscillator 2 are not displayed

- Make sure that the PROG 2.1: Ed–Basic, Prog Basic page "Mode (Oscillator Mode)" parameter is set to **Double**. ..... ☞p.46, PG p.7

This instrument does not respond to incoming MIDI data

- Are all MIDI cables connected correctly? ..... ☞p.13, PG p.245
- Is the MIDI data being received on the channel on which it is being transmitted? ..... ☞PG p.137

This instrument does not respond correctly to incoming MIDI data

- Are the GLOBAL 2.1: MIDI settings "Enable Program Change," "Bank," "Ctrl Change," and "AfterT" each **checked**? ..... ☞PG p.138
- If you wish to receive MIDI exclusive messages, is the GLOBAL 2.1: MIDI "Exclusive" item checked? ..... ☞PG p.139
- Does this instrument support the types of messages that are being sent to it?

Can't format a floppy disk

- Are you using a 2.5 inch 2HD or 2DD floppy disk?
- Is the floppy disk inserted correctly?
- Cover the write protect hole of the floppy disk, so that it is in the "write permit" position.
  Correctly insert a 3.5 inch 2HD or 2DD floppy disk (with its write protect hole covered) into the disk drive, and format it once again.

Can's save/load data to/from a floppy disk

- Is the floppy disk inserted correctly?
- Is the floppy disk formatted?
- Is the write protect hole of the floppy disk covered, so that it is in the "write permit" position.
  Correctly insert a 3.5 inch 2HD or 2DD floppy disk (with its write protect hole covered) into the disk drive, and perform the save or load operation once again.

Specifications and options

Specifications

System
HI (Hyper Integrated) synthesis system

Modes
Combination, Program, Sequencer, Song Play, Global, Disk

Tone generator
HI (Hyper Integrated) synthesis system
Polyphony: 62 voices (62 oscillators) in single mode
31 voices (62 oscillators) in double mode
Filters: 24 dB/oct LPF with resonance
12 dB/oct LPF + HPF
Alternate modulation function

Waveform memory
32 Mbyte PCM ROM
(425 multisamples, 413 drumsamples)
Expandable via PCM ROM option
(EXB-PCM series is supported)

Effect section
5 insert effects (stereo in/out),
2 master effects (mono in/stereo out),
1 master EQ (3-band stereo), all usable simultaneously
102 effect types (available for insert effects or master effects)
Effect dynamic modulation function

Combinations/Programs
768 user memory combinations (384 preloads)
640 user memory programs (384 preloads)
768 user memory programs when the EXB-MOSS is installed
256 + 9 drum ROM programs (GM2 sound map compatible)

Drum Kits
64 user drum kits (16 presets)
9 ROM GM drum kits (GM2 sound map compatible)

KARMA functions
Program mode: one KARMA module can be used
Combination, Sequencer, Song Play modes: four KARMA modules can be used simultaneously
GE patterns (preset): over 1000 patterns
Controllers (KARMA Realtime Controls):
[ON/OFF] key, [LATCH] key,
CHORD TRIGGER: [ASSIGN] key, [1]...[4] key
KARMA Realtime Controls: knobs [1]...[8], switches [1]/[2], [SCENE] key

Sequencer
16 timbres, 16 tracks + 1 master track
Maximum capacity: 200,000 notes
Resolution ♩ /192
200 songs
20 cue lists
150 preset patterns, 100 user patterns (for each song)
16 preset/16 user template songs
Supports KARMA format, TRITON format and SMF (formats 0 and 1)
RPPR (Realtime Pattern Play/Recording) function
(One set is available for each one song)

Song play
16 timbres, 16 tracks
SMF (formats 0 and 1) supported

Disk mode
Load, save, utility
Data filter function (save/load MIDI exclusive data)

Keyboard
61 keys

Controllers
Joystick, [SW1]/[SW2] keys, REALTIME CONTROLS knobs [1]–[4] and [SELECT] key, [VALUE] slider, [TEMPO] knob, KARMA REALTIME CONTROLS

User interface
Graphical user interface: 240 × 64 pixel LCD display

Mode keys:
[COMBI], [PROG], [SEQ], [S.PLAY], [GLOBAL], [DISK]

Value controllers:
[VALUE] slider, VALUE [▲], [▼] keys, [VALUE] dial, numeric keys ([0]...[9], [–], [./ HOLD], [ENTER]

Cursor keys [▲], [◄], [▼], [►],
[MENU/PAGE +/–] keys, [EXIT] key, [ENTER] key, [COMPARE] key, [F1]…[F8](T1/T9…T8/T16) key, [TIMBRE/TRACK] key

BANK keys:
PROG BANK: [A], [B], [C], [D], [E], [F], [G]
COMBI BANK: [A], [B], [C], [D], [E], [F]

SEQUENCER control keys:
[PAUSE], [REW], [FF], [LOCATE], [REC/WRITE], [START/STOP]

Audio outputs
1/4" AUDIO OUTPUT (MAIN) L/MONO, R:
1/4" AUDIO OUTPUT (INDIVIDUAL) 1, 2
Output impedance 1.1 [kΩ]
(L/MONO is 550 [Ω] for mono)
Maximum output level
L/MONO, R: +13.0 [dBu]
(INDIVIDUAL)1.2: +11.1 [dBu]
Load impedance 100 [kΩ] or greater

1/4" AUDIO OUTPUT HEADPHONE
Output impedance 33 [Ω]
Maximum output level 45 [mW]
Load impedance 33 [Ω]

Control inputs
DAMPER (half-damper supported), ASSIGNABLE SWITCH/PEDAL

Other
MIDI IN, OUT, THRU
3.5 inch floppy disk drive
AC power inlet, switch

Support for options
EXB-PCM series PCM expansion board (16 Mbyte ROM) slots × 2
EXB-MOSS

Dimensions (W × D × H)
1100 × 320 × 119 (mm)

Weight
10.0 kg

Power consumption:
20 W

Included items:
AC/AC power supply 9VAC 3.0A
Preloaded program disks KMFD-00P

Options

Expansion boards
EXB-MOSS DSP Synthesizer Board
EXB-PCM PCM Expansion Board
EXB-PCM01: Pianos/Classic Keyboards
EXB-PCM02: Studio Essentials
EXB-PCM03: Future Loop Construction
EXB-PCM04: Dance Extreme
EXB-PCM05: Vintage Archives

Expression/volume pedal:
XVP-10

Foot controller:
EXP-2

Damper pedal:
DS-1H

Pedal switch:
PS-1

Other:
MIDI cable

* Appearance and specifications of this product are subject to change without notice. (Dec/00)

KARMA - Music Workstation MIDI Implementation Chart

Function		Transmitted	Recognized	Remarks
Basic Channel	Default	1 – 16	1 – 16	Memorized
	Changed	1 – 16	1 – 16	
Mode	Memorized		3	
	Messages	X	X	
	Altered	**********		
Note Number:		0 – 127	0 – 127	Sequencer data and KARMA function
	True Voice	**********	0 – 127	can transmit all note numbers 0 – 127
Velocity	Note On	O 9n, V=1 – 127	O 9n, V=1 – 127	
	Note Off	X	X	
Aftertouch	Polyphonic (Key)	O	O	Polyphonic aftertouch transmitted *A
	Monophonic (Channel)	O	O	only as sequence data *A
Pitch Bend		O	O	*C
Control Change	0, 32	O	O	Bank Select (MSB, LSB) *P
	1, 2, 18	O	O	Joystick (+Y, – Y), Slider *C
	4, 5, 7, 8, 10	O	O	Pedal, Portamento Time, Volume, IFX pan, Pan *C
	11, 12, 13	O	O	Expression, Effect Control 1/2 *C
	64, 65, 66, 67	O	O	Damper, Portamento Sw., Sostenuto, Soft *C
	70 – 79	O	O	Sound (Realtime Controls 1 – 4A: 74, 71, 79, 72) *C
	80, 81, 82, 83	O	O	Switch 1, 2, Foot Switch, Controller *C
	93, 91, 92, 94, 95	O	O	Send 1, 2, Effect ON/OFF (IFXs, MFX1, MFX2) *C
	14, 22 – 29, 30, 31, 85 – 90	O	O	KARMA RTC, Chord Trigger1 – 4 *C, *2
	6, 38, 96, 97	X	O	Data Entry, Increment, Decrement *C
	98, 99, 100, 101	X	O	NRPN (LSB, MSB), RPN (LSB, MSB) *C, *3
	0 – 95	O	O	Realtime Controls knobs 1 – 4 B-assign *C
	0 – 95	O	X	KARMA GE data *C
	0 – 101	O	O	Sequencer data (receive *C)
	120, 121	X	O	All Sound Off, Reset All Controllers *C
Program Change		O 0 – 127	O 0 – 127	*P
	Variable Range	**********	0 – 127	
System Exclusive		O	O	*E*4
System Common	Song Position	O	O	When cue list is selected, corresponds to cue list *1
	Song Select	O 0 – 127	O 0 – 127	When cue list is selected, corresponds to cue lists 0 – 19 *1
	Tune	X	X	
System Real Time	Clock	O	O	*1
	Command	O	O	*1
Aux Messages	Local On/Off	X	O	
	All Notes Off	X	O 123 – 127	
	Active Sense	O	O	
	Reset	X	X	

Notes
*P, *A, *C, *E: Transmitted/received when Global 2.1: MIDI Filter (Program Change, AfterT, Ctrl Change, Exclusive) is Enable, respectively.
*1: When Global mode 2.1: MIDI Clock is Internal, transmitted but not received. The opposite for External.
*2: Valid when assigned to MIDI control changes in Global 6.1. The number here will depend on the “Default Setting” assignment.
*3: RPN (LSB,MSB)=00,00: Pitch bend range, 01,00: Fine tune, 02,00: Coarse tune
*4: In addition to Korg exclusive messages, Inquiry, GM System On, Master Volume, Master Balance, Master Fine Tune, and Master Coarse Tune are supported.

Mode 1: OMNI ON, POLY Mode 2: OMNI ON, MONO O: Yes
Mode 3: OMNI OFF, POLY Mode 4: OMNI OFF, MONO X: No

Consult your local Korg distributor for more information on MIDI IMPLEMENTATION.

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